

10,047, and in Doomjoor 9,276. In other quarters the numbers were not so large, and the extent of injury done was comparatively trifling.

In and near Howrah the number of trees blown down was very large. In other quarters trees did not suffer so much. Coconut trees stood the storm remarkably well, but few having given way to it. In many places, however, they were stripped of the fruit.

Great fears were at first entertained regarding the rice crop, but the actual damage done appears to have been much less than might have been anticipated. The injury has been the greatest in the high lands where the grain was nearly ripe. When out in the district immediately after the hurricane, the Magistrate observed that in many places half the grain appeared to have been beaten out of the ear. In Shampore the ryots estimated the loss at 10 annas in the 16 as regards the high lands: on the other hand, the crop in the low lands, where plenty of water lay, suffered comparatively little, the loss being estimated at from 2 to 4 annas only. By far the greater portion of the rice land in this district is low and under water; hence the total average of injury is not so extensive as was expected. Up to the end of October the promise of the crops had been remarkably good throughout the district; the outturn of the year will, notwithstanding, be not less than a twelve anna crop.

As regards the other crops there is not much to add. There is but little "boro dhan" sown in the district, and no great quantity of rubbee. The rubbee, if any, should have been sown before now, but still, with favorable weather for the next four months, the average produce may be raised.

Sugarcane, pan, plantains, and garden produce generally, have suffered considerably, but the area of land under such cultivation is not extensive.

Prices have naturally increased since the storm, but they will go down again if the rice crop sustains no further damage.

For the purpose of relieving, as far as possible, the distress occasioned to the poor by the destruction of their huts and of their garden produce, a Relief Fund has been set on foot by a public meeting.

It was determined to hand over all subscriptions received to the general Relief Fund in Calcutta, and in return to draw upon it for such pecuniary means as are required for this district. Rupees 5,000 have accordingly been received from the General Fund, and have been assigned to the relief, by the hands of Sub-Committees, of the distressed residents within the limits of the Municipality, which extend from Bally to the Botanical Gardens.

Arrangements for granting relief in the interior are being adopted, and with this view local subscriptions are being raised at Oolooberiah. A meeting of the principal inhabitants was called by the Magistrate, and upwards of Rupees 250 raised; assistance from other quarters is promised.

The Municipal Commissioners, at a special general meeting held on the 9th instant, resolved to permit the owners of overthrown huts to re-construct them with thatches, notwithstanding the prohibition of the bye-law. Without declaring any general remission of the tax, it has been left to the Chairman's discretion to remit it in the case of all persons who had suffered such losses as would press too heavily upon them.

**HOOGHLY.**—At Hooghly the gale is said to have commenced at 11 P. M., and lasted till 4 A. M., the worst period being between 1 and 3 A. M., when the direction of the wind was gradually shifting from north-west to due west.

At Serampore, about 10 P. M., the wind commenced to blow in violent gusts from the north-east, and it commenced to increase in violence until 12 o'clock, when it became more northerly. At about 3 o'clock it went rather suddenly round to the north-west, and at this time attained its greatest force; about 4 A. M. it commenced to abate, but the gale did not altogether cease until 6 A. M.

The Magistrate, who did not rejoin his appointment till eight days after the occurrence, reports that, as regards the Station of Hooghly, the amount of damage done is trifling in comparison to that caused by the Cyclone of 1864, at which time Mr. Cockerell was in charge of the district; comparatively few trees have been blown down, and most of the public buildings have suffered but little. A great many huts have been destroyed, and from this cause alone has there been any real distress.

Twenty-four deaths only were reported throughout the district, but this does not include casualties on the river, concerning which no accurate information is obtainable.

The part of the district which suffered most is that bordering on the river, while the damage towards the north appears to be less than that within the Serampore Sub-Division, south.

At a distance of twenty miles west of the river, though a few houses were here and there blown down, the injury done was small.

In the west portion of the district there was not more than an ordinary gale; one or two trees have been blown down, and the straw from a few huts carried off; the crops, however, suffered from the heavy rains.

As regards the crops generally, the reports of the injury caused by the storm are very conflicting; it is impossible to take any particular average throughout the district of the loss sustained. Where the rice was forward and was much exposed, half the crop may have been lost; in other places, where the ear had not formed, or where there was some shelter to break the violence of the storm, little damage has been done. Mr. Ryland, the Deputy Magistrate

of Serampore, says, as the crops generally promised to be very fine, this loss will not materially affect the condition of the people. The price of rice per maund, immediately after the Cyclone, rose from Rs. 1-7 to Rs. 1-12. It was as high as

\* Since this was written the market is lower than it was before the storm.

Rupees 1-15 and Rupees 2 on the 23rd instant, but is daily falling.\*

Relief measures both at Hooghly and Serampore have been confined to giving assistance to those actually destitute of means to re-build their huts.

For this purpose Committees have been formed for different portions of the town, for the purpose of raising subscriptions, and the circumstances and necessities of every applicant for relief are also certified by some members of the Committee before relief is granted. The amount given in each case has varied from 3 to 7 Rupees, according to the loss sustained by each person, and the number of the family. 5000 Rupees have been assigned by the Cyclone Relief Fund for this district, of which Rupees 2,500 have been sent to Serampore.

The Municipalities of Hooghly and Serampore have also passed resolutions to grant a remission of the tax on all kutchahouses and gardens destroyed or injured by the storm; the amount of remission to be regulated by the injury done in each case.

The following statement of the number of houses destroyed and injured by the gale in Shahgunge, Hooghly, Chinsurah, and Chandernagore, will give an idea of the violence of the storm, and the injury done in the neighbourhood.

Sub-Division.	Number of pucca houses in each Sub-Division.	Number of kutchahouses in each Sub-Division.	Number of pucca houses blown down by the Cyclone.	Number of pucca houses injured by the Cyclone.	Number of kutchahouses blown-down by the Cyclone.	Number of kutchahouses injured by the Cyclone.
Shahgunge	390	517	7	4	337	153
Hooghly	1,523	2,327	12	32	478	421
Chinsurah	1,347	1,095	15	7	152	249
Candernagore	741	783	16	48	292	364
Total	4,001	4,722	50	91	1,259	1,187

The remission of the tax will cost the Municipality about Rupees 1,500.

It has been proposed to adopt the same measures in the neighbouring villages where Act XX. is in force, and lists are being prepared with this object.

BANCOORAH.—The only damage caused by the storm in this district was to the crops, and that in a very slight degree. In and around the station there was no indication of the crops having suffered in the very least degree, while to the eastward, at Kotulpore, where the violence of the storm was rather great, the reports of damage to the rice and sugarcane crops are more favorable than they were at first represented to be.

Before the storm the Collector had estimated the outturn of the rice crop at 14 annas of a full crop; after it, he had at first supposed that the damage caused would reduce it to a 12 anna crop, but he has now assumed that nowhere in the district is a less outturn than 13 annas expected, while in some places a full 16 anna crop is a certainty. The sugarcane, especially to the eastward, was thrown down by the wind, but the canes have not been materially injured, and can be reclaimed by artificial props.

No other damage of any kind has occurred in the district.

BEERBOOM.—This district almost entirely escaped the hurricane. There was a heavy fall of rain and high wind, which did some little damage to the crops on the 1st and 2nd, but nowhere has the loss been severe.

MIDNAPORE.—On the evening of the 31st of October the sky was perfectly clear. It had been a raw drizzly day however, and 20 miles east of Midnapore the sky never cleared. The weather was refreshingly cool, and it seemed certain that the usual calm-cold weather had set in. Shortly after midnight, however, clouds began to rise, and from 8 A. M. to 11 A. M. on the morning of the 1st drizzling rain continued to fall; at 11 A. M. the drizzle became a torrent, and the wind commenced to blow in gusts from the north-east. The wind freshened almost imperceptibly, and at 6 P. M. was blowing strongly and pretty steadily from the north-north east, but it did not deserve the name of a storm until about 10 P. M. From that time until 11½ P. M. there was certainly a very high wind. From 11-30 P. M. the Barometer, which had been falling steadily, remained stationary until midnight, when it began to rise again. During the whole time the wind was accompanied with heavy rain, which slackened at midnight, when Mr. Shortt, the Officiating Collector and Magistrate, went round the



Cutcherry Guards. In the morning the wind had completely subsided. The following readings were taken from an Aneroid Barometer which Dr. Bensley kept at the Jail Hospital and the correctness of which may be relied on:—

3 P. M.	Barometer	29.83,	wind	North-East.
6 P. M.	"	29.70,	wind and rain	increasing.
8 P. M.	"	29.66,	do.	do.
10 P. M.	"	29.62,	do.	do.
11 P. M.	"	29.58,	do.	do.
11-30 to midnight	}	29.52		
1 A. M.				
5 A. M.	"	29.66		
7 A. M.	"	29.72		
7 A. M.	"	29.78		

On the morning of the 2nd the ground was strewn with leaves, and here and there a few small branches had been blown down, but otherwise there was nothing to shew that a heavy storm had passed over the station.

At Godapeasal, seven miles to the north of the station, the crops along the road-side are reported by Mr. Shortt as a little the worse from the previous day's bad weather. The grain was nearly ripe, and was generally beaten down, but this occurred in very few fields, and even then the amount seriously injured could not (to use the Native standard) be greater than two annas in the Rupee. Before the storm the crop was generally estimated to be about  $\frac{1}{4}$  greater than the ordinary 16 anna crop. Further north the crops looked better, and more cheering were the accounts received from the ryots.

Considering that there was no necessity for proceeding further in this direction, Mr. Shortt returned to Midnapore, and started for the Sub-Division of Tumlook, via the village of Palpore, three miles west of Panchkoora, which looked in splendid condition, and although 2 annas, 4 annas and even 6 annas loss was reported from some Police Stations, there was nothing to shew that there would be the loss of even one anna of a crop which may be termed magnificent. Observing carefully the appearance of the fields, and taking specimens from them as he proceeded to Tumlook, Mr. Shortt reports that, as far as he can judge, he considers the crop as far as this point even better than that at Panchkoora.

The crop along the road from Midnapore to Belda, &c. for about 25 miles in the Balasore direction, has been very little injured. The crop itself is later than that in the Tumlook Sub-Division, but a full crop is expected to be reaped in this quarter. From Belda to Contai Mr. Shortt reports that the rice gets finer and finer as you near Contai, and, as far as he could judge, it has suffered no injury.

Mr. Adams, the District Superintendent, proceeded from Tumlook to Contai via Mysadul, Doro, and Kedgerie, and reported that though those Pergunnahs had suffered more severely than any others he had seen, a fair average crop would still be reaped. At Kedgerie two men were killed by falling in of a house, and in the Sootahatta Bazar (Doro Pergunnahs) fifteen others lost their lives from similar accidents. This is hardly to be wondered at, as those Pergunnahs are in a very exposed position.

The general result appears to be briefly as follows:—

The western half of the district has not suffered. The crop has not been affected to speak of, and there has been no damage at all to other property.

Eastwards from the town of Midnapore the crops were blown about with greater violence.

The eastern boundary is the Roopnarain, and only close to that river have any huts fallen in. They are so few as not to call for attention. The crops, in spite of the gale, are still reported as extremely fine; the large Pergunnah of Bogree has, according to latest accounts, lost 4 annas of a very fine crop. But even that is considered an undue estimate by the best authorities, the Zemindars.

Only in Tumlook and Hidgelee the wind amounted to a severe gale, and that scarcely so anywhere but in Doro and Mysadul, and in Tumlook itself.

In Hidgelee a very few huts have fallen, and no trees of any size. The deaths reported up to date were only three from falling houses, and no more are likely to be discovered. The worst news from there is the loss (in all probability) of "8 or 10" boats waiting to take in salt at the mouth of the Rusulpore river (just opposite to Saugor Island). They were blown out to sea, and have not been heard of since, but seven dead bodies, supposed to belong to them, were washed ashore; a small ferry boat too has been blown away on that river, always a dangerous one to native craft.

The loss of crop is put down by Mr. Rattray, Deputy Magistrate of Contai, and Mr. Shortt, the Officiating Collector and Magistrate, as not more than 2 annas on the whole. But as the season was a glorious one so far, the harvest is likely still to be magnificent.

Petitions sent in from this part of the country deserve notice on account of their unusual and unmeaning exaggerations. It is only right to observe that the liberal remissions made in Hidgelee for the last 60 years, ending in that for the Cyclone of 1864, have engendered habits of exaggeration in the description of their losses, which make it quite impossible to guess from the language used whether the injury done is tremendous or trivial. An approximate idea can be formed from most petitions, but not so in Hidgelee, where exaggeration is proverbial.

The worst effects in Hidgelee were near the sea, and that the worse the further north along the shore; towards Balasore, only the crops have suffered, and even here the Zemindars admit that they will have a finer harvest than any during the past six or seven years.

In Tumlook serious injury has been done. The district runs out there well into the track of the Cyclone. The unfortunate Pergunnah of Doro (just opposite Diamond Harbour and Mud Point) has again borne the brunt of the storm. It was visited by the Deputy Magistrate, Baboo Jadub Chunder Ghose, and by Mr. Adams, the District Superintendent of Police, ever active and prepared, and both Officers agree in thinking that the loss is not so severe as to call for charitable assistance. It must be borne in mind that the huts in Kookrahatty and Gowakhally are the flimsiest of structures, re-erected almost every other year, as is the custom in Gunjes on the banks of large rivers. At the worst the Deputy Magistrate does not put down the number of houses destroyed as more than five per cent. in Doro, and less elsewhere.

This can scarcely have touched more than the most slender constructions, and though it might have been opportune if a little money had reached the owners at the time, to feed them while putting their dwellings up again, they must have done so by this time. The Magistrate, Mr. Herschel, passed through the Ooloberiah bazar the morning after the storm, where several huts had been blown down. On his return, 12 days later, they had almost all been set straight without any outside aid.

Mr. Herschel reports—"In Tumlook itself 120 huts were blown down and one calf was killed. Your suggestion to remit Chowkeydaree tax on these people will be communicated to the Deputy Magistrate, who says that the people have suffered no very severe loss in personal property, and, if at all, a very slight one.

"The huts, I presume, are such as fell at Ooloberiah, the re-erection of which is a tax on the energy, but little or none on the purse, of the owner."

The loss of life in the Tumlook Sub-Division was 18; all (except two of which) were in Doro.

The crops in the western part of the Sub-Division are reported as beautiful, and the damage done small. In Doro and Mysadul it is otherwise. The crops were extremely fine (except in the centre of Doro, owing to an extraordinary rain-fall early in the year), but from  $\frac{1}{4}$  to  $\frac{1}{2}$  has been lost according to present appearances.

Much stress on the estimates of damage done to the crops cannot be laid at present; it will be time enough to form an opinion on that point when the harvest comes. It is sufficient at present to know that the injury is nowhere more than one-third, and that only in one Pergunnah. What is still more satisfactory is, that the market prices, which were all disturbed for a few days, have recovered themselves, and are falling, as usual, as the harvest approaches, below what they were before the gale, excepting only in Doro, where the latest accounts shew a rise of 6 seers (from 32 to 26 seers per Rupee). Rice in Midnapore is 46 seers, and in the jungle mehals 50 seers per Rupee. The total loss of life in the district is 28, including the seven boatmen on the Rusulpore. Of cattle about 120 have been destroyed. The number of huts blown down, including Gunje-sheds, is about 800. Mr. Shortt, the Officiating Collector, and Baboo Jadub Chunder Ghose, were most prompt in their investigations, and saw no signs of distress.

Mr. Shortt, in speaking of the general appearance of the crops, remarks thus:—

"The ryots certainly say that although the crop looks so well, yet a blight has fallen on it from the effects of the storm, and that the outturn will be merely straw and chaff. This account I entirely disbelieve. I examined carefully many of the fields throughout my enquiry, and found no sign of blight. I should be the last person to ignore symptoms of loss or distress, having been in the midst of the famine of 1866; yet, as far as my judgment goes, I think I can guarantee that the people of the Midnapore District will live in plenty, if not in abundance, during the year 1868."

**BURDWAN SUDDER STATION AND DIVISION.**—The weather in the station was rough and wet throughout the 31st of October and 1st November. On the night of the 1st the wind gradually rose and blew with great and increasing violence from 9 P. M. to 1 A. M., when it reached its climax. The direction of the wind veered from north-east to north-west until about 5 A. M., when it gradually subsided; there were occasional gusts from the south-east. There is, however, some difference of opinion about the last; but the direction of the fall of some of the heavy trees on the Grand Trunk Road in the station corroborates this fact. There was no loss of life in the Sudder Division, and the damage to property in the station was confined to trees, to the Police Hospital, a large and cumbrous building, and a few cutcha huts, which were blown down. The standing rice crop was much beaten down in course of the wind; the Police estimate the damage variously from  $\frac{1}{4}$  to as much as  $\frac{1}{2}$  the crop in some places, but from personal observation, corroborated by the reports of the Civil Surgeon, the District Superintendent, and the Local Fund Engineer, who visited the interior since the gale in different directions, the Collector has expressed himself confident that the loss will not exceed 2 to 3 annas; my own observations confirm me in this opinion.

The market price of rice has not been affected; the cold-weather crop wherever damaged can be sown again, and no relief is required.

**BOOD-BOOD SUB-DIVISION IN THE BURDWAN DISTRICT.**—Nothing more than a strong gale was experienced, and no material damage done.



The rice crop in places may have been injured to the extent of 2 annas, not more; but Baboo Hit Lall Misser, Honorary Magistrate in this Sub-Division, who has extensive properties, informs me that the injury has been most trivial.

**RANEKGUNGE SUB-DIVISION IN THE BURDWAN DISTRICT.**—Nothing beyond rough weather was experienced, and no damage done.

**CUTWA SUB-DIVISION IN THE BURDWAN DISTRICT.**—A severe storm of wind and rain was experienced here. The wind began to blow with great violence from about 10 p. m. to 2 or 3 a. m., commencing from the north-east and veering round to the north and north-west and west. About 100 houses have been blown down in the Division, and 26 boats laden with country produce, including the smaller crafts, were sunk in the river; of the latter, 11 have since been recovered. The loss of property is estimated at about Rupees 9,000; no loss of life occurred.

Much of the amun rice crop in this Division was in blossom, and was liable to injury by any strong wind accompanied with rain at this season. The Police estimate the average loss to the rice and cold weather crop at  $\frac{1}{4}$ , and the Deputy Magistrate, Baboo Kallica Dass Dutt, from personal observations, considers this estimate not over-rated.

The Deputy Magistrate, however, reports that the price of rice still continues to stand at 36 seers for the Rupee, and that he found the ryots everywhere engaged in their ordinary occupations and no complaint of distress.

No measures for relief are or were required.

**CULNA SUB-DIVISION IN THE BURDWAN DISTRICT.**—The Assistant Magistrate, Mr. J. R. Hallet, was absent at the half-yearly examination at the Presidency when the storm occurred, and the subjoined information is based on the Police Reports and (Mr. Hallet's) subsequent observations. In Culna itself the storm commenced on the night of the 31st October, with rain and wind, which continued throughout the next day, gradually increasing to a hurricane during the night, which did a deal of damage to house and other property, and did not cease until 11 a. m. on the 2nd. It was discovered that 257 houses were more or less damaged, 117 trees blown down, and 33 laden boats sunk in the river; most of the boats have since been recovered. The loss of life was confined to one person killed on shore by the fall of a wall.

On the day after the storm the price of rice rose from 1-11 per maund to 2-8, but on the 4th November it fell to 1-15, and now stands at 1-12.

The storm has caused but little distress in Culna itself, and there is no reason to apprehend scarcity of food.

The Assistant Magistrate has prepared a list of 43 poor persons who require assistance in re-building their huts, and estimates the amount required at Rupees 244. For this small sum the Magistrate has been directed to apply to the Central Committee. The private loss of property is estimated at about Rupees 25,000, and that of Government at Rupees 500.

With regard to the crops  $\frac{1}{4}$  of the rice and the greater portion of the cold weather crop are reported by the Police to have been destroyed; the correctness of this report, as well as that of the 4 following paragraphs, will be tested by the Collector, who is about to proceed to Culna.

In Thannah Bhatooria the storm commenced on the morning of the 31st October, and subsided at mid-day on the 2nd November. In this Thannah 6 annas of the crop is said to have been destroyed, and about 40 cattle killed.

The loss to private property is estimated at Rupees 4,000.

In Montessur the storm began on the morning of the 31st and ceased at 3 p. m. on the 1st.

The proportion of the crop destroyed is said to be  $\frac{1}{4}$  of the rice and the whole of the cold weather crop.

The walls of the Police Station and a few huts here were blown down. There was no loss of life.

With respect to the loss reported on the crops, no distress is anywhere apprehended; the price of rice has not been materially affected; the cold-weather crops can be re-sown: for these and other reasons stated above respecting the Sudder Division, the Collector believes it to be exaggerated, and that 3 to 4 annas will fully cover it: no general relief is required, and I still estimate the average district outturn at from 10 to 12 annas.

The direction of the wind in this Sub-Division appears to have been eccentric; in Culna it blew from the north-east and afterwards veered round to the north-west, when it subsided; in Bhatooria it blew first from the north, then from the south-west, and at last from the west.

In Montessur it blew first from the north-east, then the west, and when it subsided it came from the south-east.

The Assistant Magistrate has convened a meeting in Culna for the relief of such trifling distress as exists, and estimates that the total amount required for the whole Division will not exceed Rupees 1,000. The relief proposed will be confined to aiding the very poor in re-building their huts.

From E. W. MOLONY, Esq., Famine Commissioner, in charge of Current Duties, to the Junior Secretary to the Government of Bengal,—(No. 967, dated Cuttack, the 19th December 1867.)

WITH reference to your No. 5057, dated the 9th instant, I have the honor to enclose a copy of the report which was furnished to the Board of Revenue for this Division. The report, I think, embraces all points on which information is required and as, with the single exception of False Point, the storm did not increase to anything approaching a hurricane, and there was no loss of life or of property to any great extent, I do not conceive that any further particulars will be of interest. I have heard of no bad effects of the storm upon the general health of the people in any part of the province.

From A. MANSON, Esq., Special Assistant Commissioner, Cuttack Division, to the Secretary to the Board of Revenue, Lower Provinces,—(No. 907½, dated Cuttack, the 26th November 1867.)

IN accordance with instructions received from the Commissioner now in camp, I have the honor to submit the following detailed report of the storm of 1st November, in continuation of this Office No. 874 of 18th instant. I have arranged the particulars of the several Districts in the order in which they lie from north to south.

2. Captain A. Bond, Master Attendant of Balasore, was on his way to Calcutta in tow of the *Conqueror*, and states that he did not encounter the storm, which passed him to the north-east, but it was blowing heavily on the night of 1st November; he gives the following readings of the barometer:—

Date.	Moon's age.	7 A. M.		NOON.		4 P. M.		Wind, &c.
		Barometer.	Thermometer.	Barometer.	Thermometer.	Barometer.	Thermometer.	
30th October ...	3½	29.78	75	29.80	78	29.77	80	N. light to N. W. to N. N. W.; cloudy to N. E.
31st October ...	4½	29.75	77	29.74	77	29.72	76	N. W. very cloudy rain, to N. E. rain.
1st November ...	5½	29.68	75	29.58	74	29.51	72	N. rain at noon heavy rain to N. W. heavy rain.
2nd November ...	6½	29.72	75	29.78	79	29.80	75	W. to N. at noon N. clear with light wind.

3. Slight damage to the crops has been reported at Bulleapal on the Soobunreekha river, as also at Bustah and Bhera, but the injury was local, and in no place exceeded 2 annas or 1-8. In the north of the Balasore District a few huts were unroofed; no life appears to have been lost in any part. The wind blew uniformly from the north at Balasore Sudder Station; it commenced with a fresh breeze on the morning of the 1st November, and increased to high wind in the afternoon, and to a moderate gale early in the night, it fell suddenly at about 1 A. M. of the 2nd. The force of the wind was sufficient to blow down a couple of small trees, but the Collector observes that these were imperfectly roofed, and that the ground was softened by the rain. The Collector was on the coast near Balasore on the 3rd, but there had been nothing of the nature of a storm wave. Any injury that may have been caused is extremely slight.



4. At Bhuddruck, on the evening of the 31st October, there was a strong wind, which lulled at about 10 P. M. On the morning of the 1st it again rose at about 9 A. M., and blew in violent gusts; from 11 A. M. to 1 P. M. the wind was at its highest, and from 3 P. M. it gradually fell. The direction was at first north, but on the 1st it veered to north-west; it was at no time extraordinarily heavy; some injury was anticipated, but only from the heavy rain which followed during the week. The Assistant Collector of Bhuddruck, writing on the 22nd instant from personal inspection, says:—From Kolho to Chandbally the force of the wind on the 1st November levelled the paddy to the ground in many fields, and the rain which subsequently fell has rolled it. In other fields, especially of *guru Dhan*, the ears have been emptied of their contents, and nothing but chaff remains. Over this tract the direction of the wind was due north during the two days that it lasted: between Chandbally and Dhamrah little injury had been done; as to Dhamrah itself, there appears to have been an unusually high tide on the 1st November, which has left little pools of water on the land in the neighbourhood. The Government rice golah was surrounded by the water. The roof of the golah is in a dangerous condition, the force of the wind having broken the cross beams, but they were old and decayed, and as no boat or house in Dhamrah was destroyed, and no life lost, it appears that even here the storm did not amount to more than a somewhat heavy gale. The Assistant Collector found the awning pole of some vessel washed ashore. As little or no cultivation is carried on in the neighbourhood of Dhamrah, little damage was done by the rise of the water. The injury to the Sub-Division has been confined to the coast tract, where it has, however, been considerable. The loss to the crops between Kolho and Chandbally is probably as much as  $\frac{1}{4}$ , or 4 annas; the price of rice, however, remains steady and low.

5. From Jajpore Sub-Division no accounts of the force or direction of the wind have been received. In Ulabhur some huts were unroofed, and from Aul the Assistant Collector had heard that the crop had been injured to the extent of 4 annas, or  $\frac{1}{4}$ ; the crop there was, however, very scanty, and the Dewan of the Rajah of Aul, since stated to the Collector of Cuttack that the injury had not been over any extent worth speaking of; farther inland very slight injury had accrued to the Sarud crop. The Assistant Collector had also heard of some sort of a storm wave having inundated Saraswats and Jagula on the Bhuddruck side of the Dhamrah. The result of a personal investigation by the Assistant Collector has not yet been received; there are reports of any loss of life having occurred in this part of the country.

6. At Kendraparah the wind rose from the evening of the 30th October to a gale at about noon of the 31st; it continued with some violence till evening of that day, and subsided entirely on the morning of the 1st November. At Pattamoondai the direction of the wind was N. N. E.; at Kendraparah itself it was N. N. W.; and at Chandpore it was due N. The storm was accompanied by showers of rain. At both Pattamoondai and Kendraparah a few old huts were unroofed, but nothing more than would generally result from an ordinary storm. The cultivators fear that the bloom of the early Sarud rice has been injured, the crop with which nearly half the Sub-District is cultivated; in a few places the ripening paddy was beaten down, but not so as to render any considerable injury probable. The Assistant Collector writes from personal inspection, that in Tikan, Utikan, Noulbeshay, and part of Koojung, the Pergunnahs most liable to injury from hurricane, the injury to the crops had been still less than had been anticipated. In some places the flower of several sorts of rice sown broad-cast had been destroyed by the force of the wind, but where the rice had been planted it grew so close that scarcely any injury had been done to it. Some of the ryots complained that the rain had spoilt the ground prepared for their "birhi" and other rubbee crops, but they acknowledged their loss to have been trifling. No life has been lost, so far as is known, either of men or cattle. Some injury was done by the wind unroofing old huts, but all of a very trifling description. The Assistant Collector proceeded to within a few miles

of the sea, but found no traces of a storm wave, and could not even hear of the water having risen perceptibly in any of the creeks. The direction of the wind over the coast tract of the Sub-Division appears to have been as near due N. as possible. The general appearance of the rice crops over the Sub-Division is magnificent.

7. In Cuttack Town no mischief to life or property occurred. The wind was high both on October 31st and November 1st, and blew steadily from the N. The Master of the False Point Light House reported that the storm commenced at 10 p. m., October 31st, and blew from N. N. E., until about 8 p. m., of November 1st. He describes it as the severest gale he ever experienced. The Light House and boats were uninjured. In the anchorage were the *S. S. Conqueror* and some other vessels. But the port is secure from any great violence from storm, and all the ships rode it out in safety. The water rose at Kharinasi, about 5 miles west of the light; it topped the temporary bund or platform raised to protect the golahs. No injury to the rice was done. The roof of the golahs at Kendradia were injured, but not permanently. The gale did not blow with much violence so far inland as this. At Hansooa and Paint the golahs suffered some injury to their roofs. In no part of the Cuttack District does the damage to crops appear to have reached  $\frac{1}{2}$ , and the Commissioner, from personal enquiry, has learned that in the western part no loss whatever has occurred. There is no report of a storm of unusual violence from any part except False Point, and no life appears to have been lost.

8. At Pooree, on November 1st, there was high wind from the N. or N. by E., and the sky was heavy, indicating bad weather in the Bay. On the night of November 2nd the wind increased to a gale from the same direction, with moderate rain, but the wind was not higher than it is frequently felt at Pooree. The only remarkable feature noticed was that the surf, on the morning of Sunday, 3rd, was much heavier than any Native or European inhabitant could remember to have seen it, and very much greater than is usual during high winds. The surf was exceedingly heavy, and, rolling in against a high wind, occasioned a mass of foam and spray to rise to a height of 20 or 30 feet, and occasionally to a much greater height. About noon of the 3rd both sea and wind subsided, but the weather continued wet and unsettled for a week or 10 days after that date; the storm was not accompanied by very heavy rain nor by inundation. No serious damage has occurred to the crops, and no complaints have been made. There are no reports of loss of cattle or of human life, or of injury to houses; little notice was attracted to the storm at the time, except as unseasonable weather which might cause injury to the harvest if followed by much rain.

9. Reports from Khoordah state that a high wind blew from the north there on 1st and 2nd November, but not sufficiently strong to be considered a storm, and no damage has been done.

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From C. F. MONTRESOR, Esq., Commissioner of the Burdwan Division, to the Junior Secretary to the Government of Bengal,—(No. 72, dated Burdwan, the 31st December 1867.)

In reply to your letter of the 9th instant, No 5056, received on the 16th, I have the honor to refer you to my *complete report* to the Board of Revenue No. 650A., dated the 29th ultimo, on the effect of the late hurricane of the 1st ultimo as applicable to this Division, embodying the particulars required in your letter under acknowledgment. The only point in it not noticed is the general health of the people after the hurricane. This does not, however, appear to have been materially affected by it, though in a few parts, where the poorer classes were deprived temporarily of shelter, there was doubtless more or less suffering from exposure, but this has long since been relieved.

2. I also subjoin a statement, arranging, as far as practicable under the four heads alluded to in your communication, the particulars embraced by my report.



3. Should any further information be required with reference to your 3rd paragraph, it will be submitted with any additions that may be deemed necessary after further local investigation, especially as to the loss of life, which cannot be arrived at with any accuracy, as such was almost wholly confined to the rivers in which boats from a distance were moored.

4. In estimating the number of houses lost, I would notice that a very great majority of those which I have inspected, especially in the Culna Sub-Division, where the storm was somewhat severe, were simple huts of the most fragile description, and such as would not have stood the violence of an ordinary Nor-Wester.

5. I witnessed the gale and its results in Calcutta, and have seen and heard of no such devastation in any part of this Division, excepting perhaps at Howrah, Bidobatty, and Serampore, and that confined almost to the banks of the river, where the violence of the hurricane was necessarily, from the exposed position, greater.

In Beerbhoom and Bancoorah it may be said not to have been felt.

District.	1 Amount of loss of life caused.	2 Amount and description of the loss of property, houses, crops, and boats, especially.	3 General health after the Cyclone.	4 Character and progress of the storm in different localities.
Bancoorah ...	.....	14 annas of a full rice crop was expected; the storm is reported to have reduced the out-turn to 13 annas, but this may be said to be little more than conjecture. No other loss sustained.	Not affected in any way by the storm.	
Beerbhoom ...	This District escaped the storm almost entirely	...	Ditto.	
Burdwan ...	Only one human life was lost in the Culna Sub-Division by the fall of a wall, and forty head of cattle were lost in the same manner.	<i>Houses.</i> —From 350 to 400, including huts, besides, a great number of trees. <i>Crops.</i> —From 2 to 3 annas of a crop is reported to have been destroyed. I have since visited the parts most affected in both Sub-Divisions, and should estimate the loss at the highest at 1 anna. <i>Boats.</i> —Fifty-nine, all in the Cutwa and Culna Sub-Divisions, of which eleven have since been recovered. Estimated value of loss of property about 38,000 to private individuals, Government 500; the greater portion of the loss of property (Rupees 25,000) was in the Culna Sub-Division. This provides for the reparation of old buildings which, in the ordinary course, would have had to be repaired according to custom annually after the harvest.	Ditto	The storm bore more the character of a gale and commenced at 9 P. M. on the North-East and veered round to the North-West. It was at its climax at 1 A. M., and subsided gradually at 5 P. M.
Hooghly ...	There were only twenty-four deaths throughout the District, exclusive of casualties on the river which, as well as the loss of boats, can't be ascertained.	<i>Houses.</i> —The number blown down were 1,300. That injured 1,278. <i>Crops.</i> —Where they were forward and much exposed, such as vegetable, pawn, hemp, gardens; one-half; where they were sheltered and the ear had not formed, little damage has been done.	Very slightly by exposure.	The character was that of a severe gale. It commenced at 11 P. M. and lasted till 4 A. M. It attained its greatest force between 1 and 3 A. M.
Howrah ...	There were twenty-eight deaths by the falling of houses and walls, besides upwards of 500 head of cattle.	<i>Houses.</i> —30,000, inclusive of huts and sheds, besides a large number of trees. <i>Crops.</i> —About 10 annas out of 16 where the lands are high were said to have been injured, chiefly garden produce, &c., and on the low lands from about 3 annas.	Ditto	Passed with extreme violence, accompanied with rain, over the town and suburbs. It was felt more severely throughout the western portion of the District than in the portion lying to the east of the Damooda.
Midnapore ...	There were twenty-one deaths.	<i>Houses.</i> —About 5 per cent. in the Tumlook Sub-Division, at other places very trifling. <i>Crops.</i> —About 2 annas of a most luxuriant crop. <i>Boats.</i> —About eight or ten salt boats at the mouth of the Russool-pore River, which were blown out to sea and a small ferry boat.	Ditto	The wind commenced blowing from the North-East at 6 P. M., and rose to a storm from 10 to 11 P. M., accompanied with heavy rain.

From F. B. SIMSON, Esq., Officiating Commissioner of the Dacca Division, to the Secretary to the Government of Bengal,—(No. 46T., dated Furreedpore, the January 1868.)

WITH reference to your letter No. 5053 of the 9th December, I find that I have very little to add to the reports I have already made concerning the late cyclone. Those reports were substantially correct; if any thing I over-estimated the damage rather than otherwise. The very fullest enquiry has been made. The Collector of Backergunge went over the south of his District in a boat; the Collector of Furreedpore visited every place in his District where his presence was likely to be necessary, and enquired also through the District Superintendent of Police. The Collector of Dacca accompanied me over parts of his District immediately after the cyclone, and subsequently I visited the large rivers which separate Dacca from Backergunge, and traversed all the north of that District, visiting the Sub-Division of Madaripore and the Sudder Station. I have since passed through more of the Dacca District on horse back, and have visited Goalundo, and seen the state of things over much of the country of Furreedpore bordering on the large rivers, and except in the obstruction of boats and cargoes, I am thankful to report that there has been no damage causing distress anywhere in the Division; the crops are certainly no where below the average, nor do the cultivators complain unless pressed to do so, and the specimens even of vegetable at the melahs of Moonshee-gunge and Furreedpore are not below the average; the effects of the storm in the District of Mymensing, Sylhet, and Cachar, were trifling and call for no further notice.

I can only ascertain for certain that three lives were lost in Backergunge and three in the Dacca District. Thatched buildings all over the District, especially those which were old, were blown down, but very few brick-buildings suffered much.

The harbour of Naraingunge was unusually crowded owing to the temporary stoppage of the railway steamer, and accumulation of goods, which could not be passed on; it is said 200 boats sunk there, and that the destruction of property was alone 60,000 Rupees, but the particulars are quite unreliable, and I can only say, as before, that on the large rivers in the Districts of Backergunge, Dacca, and Furreedpore, nearly all boats on the leeward shore sank, those in khalls and on the windwards shore were unharmed, of those that sank a small proportion broke up; of the others a large proportion was again floated and found to be not much the worse; all cargo nearly was destroyed in the boats which sank, but of this even a considerable proportion was recovered and dried. I consider it quite impossible to estimate this loss, for the boatmen did not know the value of their cargoes, and the owners were generally absent, and no enquiry could be properly made at the time.

The general health of the Districts does not seem to have been affected; as far as my enquiries go, there has been less cholera than usual as yet, and no more than the usual November fever prevalent among the Natives.

I have already noticed the general character of the storm in the Districts. The one thing that strikes me is peculiarly different from the accounts which have been so widely published in Calcutta for the 24-Pergunnahs, and that neighbourhood, is the fact that the wind from more than an hour before daylight on the 2nd of November till nearly noon, during which time the cyclone was at its height, blew strongest from the south and south-east, and that nearly all the trees and houses in the Districts which were blown down fell towards the north and north-west, whereas those which were blown down in Nuddea and 24-Pergunnahs fell towards the south and south-east, apparently about the same time.

I have no trustworthy scientific data to report; the wheels of the anemometer at Dacca had been wrongly put together, and did not act properly, and I have no sufficiently credible readings of the Mercurial Barometer to forward.



From W. LE F. ROBINSON, Esq., Officiating Commissioner of the Rajshahye Division, to the Junior Secretary to the Government of Bengal, — (No. 134Ct., dated Camp Rungpore, the 29th January 1868.)

IN reply to your No. 5055 of 9th December, I have the honor to state that in the greater part of this Division *viz.*, Moorshedabad, Maldah, Dinagepore, Rungpore, Bograh, and Rajshahye, there was nothing which could be called a cyclone; there was merely the equinoctial gale though it came a little later than usual perhaps; a few huts and trees were blown down here and there, but there was no real damage done, and there is really nothing of any interest connected with the storm in this part of the country to report about.

2. The only places in fact where the storm was felt with any degree of severity were Pubna and the Sub-divisions of Serajgunge and Comercolly, and even in those places the damage done, except to boats and their cargoes, has not been such as to call for any special measures for relief; huts of course were blown down, but where grass and bamboo are the building materials, they are easily blown down and as easily and cheaply repaired, and probably the occurrence of the storm was a god-send rather than otherwise to the poorest classes of coolies, as they would find ample employment in repairing the houses of their better-off neighbours.

3. The following extracts from the reports from Pubna, Serajgunge, and Comercolly may be interesting. At Pubna the Collector says, a high easterly wind had been felt for two days coming in gusts till the evening of 1st November, when it increased in steadiness and strength. The wind continued easterly, occasionally veering to south but more often to north-east; opinions, however, differ very much. From 12 at night to 5 A. M. the storm was at its height, the wind blowing fiercely from the north-east, the storm was accompanied by a deep booming noise.

4. The Sub-Divisional Officer of Serajgunge reports that from the regular change in the direction of the wind he has little doubt that the storm was of a circular nature; the directions of the wind seemed to indicate that the centre passed in a curve somewhere to the east of Serajgunge and gradually through south to west. There was no decided bill perceptible; the wind was at its height about 8 or 9 A. M. at which time it was blowing from the east.

5. The Comercolly Officer states that it rained almost incessantly during the 1st November, and that the storm commenced with a booming noise from north-east by east between 12 P. M. and 1 A. M. of that night the gale was accompanied by very heavy rain towards dawn the north-easterly wind changed to squalls from different directions; between 5 and 6 A. M. the gale appeared to moderate; about 6½ A. M. there was a lull for half an hour, when it blew for a short time from the north-west and then gradually subsided.

6. The loss of life appears to have been very small; one woman in Comercolly, three persons in Serajgunge, and one or two cases in Pubna itself being all that the Collector could hear of in Comercolly; there was some loss in cattle but not very great, the actual amount was not ascertained.

7. The loss of property in boats must have been very considerable, the Comercolly Sub-Division Officer puts down the losses there at one lakh of Rupees, and the Serajgunge Officer gives the accompanying list of goods\* wrecked in the vicinity of that place, but puts no valuation upon them; in

Lost in the Kole.			
*Paddy	... 1,500 Maunds.	Anniseed	... 25 Maunds.
Rice	... 1,750 "	Cloth	... 30 Boxes.
Mustard	... 3,200 "	Goor	... 500 Maunds.
Jute	... 26,500 "	Grain	... 500 "
Tobacco	... 300 "	Sugar	... 500 "
Salt	... 3,500 "	Oil	... 200 "
Cotton	... 500 "		

Pubna the loss was not ascertained but hardly a boat was able in the larger rivers to ride out the gale.

8. Where the crops were very forward they suffered to some extent, but I have no where heard the loss estimated at more than four annas, and in few places at so much, one or two annas being the general answer, and where the crops were backward they benefited by the rain fall.

9. The general health throughout the Division has been good; there was an outbreak of cholera in Rajshahye, but it was not supposed to be connected in any way with the cyclone.

From R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division, to the Secretary to the Government of Bengal,—(No. 38Ct., dated Kishnagar, the 7th February 1868.)

IN reply to Government Order No. 5052, dated 9th December 1867, and in continuation of previous more general reports upon the Cyclone of November 1st and 2nd in this Division, I have the honor now to lay before the Government a carefully prepared account of the storm as it was experienced in the District of Jessore, both in its nature and effects.

2. Mr. Monro deserves great credit I think for the completeness of his report, which, except in one particular, contains all the details that can be desired. Information is wanting regarding the loss of life and property from boats on the numerous rivers and water-courses of the District—a loss that, I greatly fear, must have been very serious. I am unable to say that any means existed whereby statistics concerning it could have been obtained in a reliable shape.

3. In regard to the destruction of houses, it must be remembered that the *materials* were not generally destroyed, but remained available for re-erection. Nevertheless, the injury to property altogether—houses, cattle, crops, trees, boats—must have been *enormous*. It is a satisfactory proof of the general prosperity of the people, that there should have been so little demand for the exercise of public charity. I entirely agree with Mr. Monro, with whom I have been throughout these months in close communication, that such charity was not called for, and that its employment, therefore, would have been simply mischievous.

4. I concur in Mr. Monro's estimate of the damage done to the rice crops. The very low prices ruling everywhere show that the crop gathered must be, with former stores, amply sufficient for the wants of the country. Actual suffering will, I really believe, result chiefly from the destruction of fruit trees, which in Jessore are largely the resource of a respectable class of persons who formerly lived by service, but, from various causes, are now in a declining condition. I do not indeed suppose that such persons will suffer actual privation, but I fear that the cyclone will accelerate their progress to poverty, unless it drive them to do, what they must at last come to, *viz.*, adopt some new means of livelihood.

5. As already stated, the cold-weather crops so largely injured do not in Jessore occupy a place of economic importance.

6. Mr. Monro is entitled to my cordial acknowledgments of the energy and intelligence which he brought to bear upon the onerous and anxious duties devolving upon him in consequence of the storm, and he was faithfully seconded by all his subordinates.

From J. MONRO, Esq., Officiating Collector of Jessore, to the Commissioner of the Presidency Division,—(No. 397, dated Jessore, the 23rd January 1868.)

HAVING now ascertained some particulars regarding the commencement and progress of the late cyclone in different parts of the district, I have the honor to submit a supplementary report on the subject.

2. Early last month I addressed a series of questions to various gentlemen in the district, and the following is the substance of the information gathered from this source.

1st.—*Commencement of the Cyclone.*—When rain began to fall? whether the rain was heavy? whether the rain was accompanied with wind? whether the wind was at first strong? when the wind began to blow like a storm wind?

I proceed to take answers on these points from all parts of the district.

Places situated to the north, *viz.*,—*Nuldunga, Kallygunge, Chundra, Jenidah, and Soilcopa.*

From *Nuldunga*.—Rain in slight showers fell incessantly from 4 o'clock in the morning of 31st October, till the evening of 1st November. The rain was accompanied with wind, which blew in gusts of varying violence till 8. p. m. of the 1st, when the wind began to rise and the rain to fall more heavily; at about 11-30 p. m. it was blowing a hurricane.

*Kallygunge*, which is a Police Station, within a couple of miles of *Nuldunga*, reports similarly.

*Chundra* reports that it rained the whole of 30th and 31st October, that the rain was accompanied with slight wind, and that the wind was blowing with great violence at midnight of the 1st.

*Jenidah*, distant 28 miles north, reports in similar terms, except that the rain commenced on the 31st.



*Soilcopa*, distant 39 miles north: same report as from *Jenidah*.

The first indication then of bad weather in the north of the district may be said to have been given on the 31st, in the morning; from that time up till about midnight on the 1st the signs of bad weather increased, and at midnight the force of the cyclone began to be felt.

Places in the north-east of the district, *viz.*,—*Huzlabut*, *Magoorah*, *Mahomedpore*.

Mr. Durand, writing from *Huzlabut*, states that the rain began on the morning of the 31st, that there was no wind till the night of the 31st, that it did not blow strong till the 1st, and that on the evening of the 1st the storm-wind first began.

At *Magoorah* Sub-Divisional Head-Quarters, 36 miles from *Jessore*, the rain began on the morning of the 31st accompanied with slight wind, which gradually rose until at midnight on the 1st the storm-wind began to be felt.

From *Mahomedpore* Police Station the same report is sent, so that the commencement of the storm was the same as at the localities in the north. *Magoorah* is 17 miles east of *Jenidah*, and *Mahomedpore* 15 miles east-south-east of *Magoorah*.

Places on the east of the district, *viz.*,—*Bagarpara*, *Sreedhurpore*, *Nohattu*, *Nurrail*, *Lohagorah*, *Kaliah*.

*Bagarpara* Police Station, 12 miles east, reports that on the 30th October rain began, accompanied with slight wind, which gradually increased till 11 o'clock p. m. of the 1st November, when the wind blew a hurricane.

*Sreedhurpore*, the residence of Baboos Punchanund and Ishur Bose, reports to exactly the same effect.

Mr. Savi of *Nyhatta*, 28 miles east, states that drizzling rain commenced on the morning of the 31st, and continued the whole of that day, and of the ensuing day. On the evening of the 1st it came down very sharp, accompanied with gusts of wind; about midnight of the 1st of November the wind began to be strong, and gradually increased to a gale at about 2 a. m. of the 2nd, after which time it assumed the appearance of a cyclone.

*Nurrail* Sub-Divisional Head-Quarters, 22 miles east of *Jessore*, reports very much as above, but states that at 10 p. m. of the 1st it was blowing a perfect hurricane; the storm-wind being felt at 8 p. m. of the 1st.

Other advices from *Nurrail* fix 11 and 12 as the time when the wind might be called a storm-wind.

*Lohagorah* Police Station, 11 miles east of *Nurrail*, reports that rain began late at night on the 30th, continued all day of the 31st, heavy showers taking place at intervals, and that the wind began to blow with great fury at 7 p. m. of the 1st.

At *Kaliah*, about 14 miles south-east from *Nurrail*, it rained during the whole of the 31st, and the wind blew strong up till midnight of the 1st; still up till that time it was thought that the wind was the usual *katian* or *kartick* wind, which often blows pretty strongly at the beginning of the cold weather during the month of *kartick*. At midnight, however, my informant began to suspect the wind was somewhat stronger than the *katian*, awoke all his children, and put them in a place of safety. We may therefore fix between 11 and 12 as the time when the storm-wind commenced at *Kaliah*.

It will be seen that the Deputy Magistrate of *Nurrail*, and the Police Inspector of *Lohagorah*, both place the commencement of the storm-wind much earlier than hitherto given. I imagine that as the ideas of all persons do not agree as to the degree of violence which would warrant the blowing of the wind being called a hurricane, so this difference of opinion has given rise to the discrepancy. My other informants at *Nurrail* speak of the storm-wind having commenced at 11 and 12 p. m.

Places in the south-east, *viz.*,—*Khoolnah*, *Molahat*, *Morrelgunge*.

From *Khoolnah*, 37 miles south-east, I have two reports.

The rain seems to have commenced on the 30th, to have continued falling not very heavily till the evening of the 1st, when the wind began to rise. The storm-wind began to be felt according to one report at 9 p. m., according to the other about midnight.

At *Molahat*, distant from *Khoolnah*, rain commenced on the 31st, and strong wind blew about 8 p. m. of the 1st.

At *Bagirhat*, about 40 miles south-east, rain commenced on the 31st, and the storm-wind began to be felt at 10 p. m.

At *Morrelgunge*, 120 miles south-east from *Jessore*, rain commenced to fall very heavily at 10 p. m. on the 30th; it was accompanied with wind which was not very strong and at 7 p. m. the storm-wind began to blow and the rain to lessen.

Places in the south of the district, *viz.*,—*Doomria*, *Bytaghata*, *Keshubpore*, *Altapole*.

*Doomria*, distant from *Khoolnah*, reports rain to have commenced on the 30th October in the morning, and to have continued falling, sometimes violently, sometimes lightly, till 9 p. m. of the 1st November, when it ceased, and the storm-wind began to blow.

*Bytaghata* reports that rain began on the 1st November (I don't trust this report), and that it continued accompanied with wind of more or less violence till dusk on the evening of the 1st, when the storm-wind began.

*Keshubpore*, twenty-two miles south from *Jessore*, reports that rain, beginning on the 30th, continued falling with varying force till the evening of the 1st. The wind, which blowing lightly had accompanied the rain, increased in violence from the evening of the 1st to 9 p. m., when it blew a hurricane. Baboo Shooka Sundoo Banerjee, living at *Altapole*, a couple of miles from *Keshubpore*, corroborates the *Keshubpore* account.

Places on the west of the district,—*Jhingurgatcha, Amirto Bazar, Gudkhaly.*

*Jhingurgatcha*, nine miles from Jessore, reports that rain began on the 30th, continued to fall heavily during the 31st, accompanied with wind which kept on increasing till midnight of the 1st, when it blew a hurricane.

*Amirto Bazar*, about four miles from *Jhingurgatcha*, reports that the rain began on the night of the 29th, and continued, with short interruptions, during the 30th, 31st, and 1st. The rain was accompanied with wind, which increased to a hurricane about 10 p. m. of the 1st.

*Gudkhaly* Police Station, distance twelve miles west, repeats the same report, fixing midnight of the 1st November as the time when the storm-wind began to be felt.

Places on the north-west of the District, *viz.*,—*Kotechundpore, Seendooree.*

*Kotechundpore*, twenty-six miles north-west from Jessore. There was slight rain on the 30th. It was heavy on the 31st, and squally on the 1st; it rained at intervals up to 11 p. m. It was very heavy during the remainder of the night, and while the storm was raging. There was no wind on the 30th. It was gusty on the 31st; on the day of the 1st it was the same, and the storm-wind began to be felt at midnight.

*Seendooree*, thirty-seven miles north-west. Rain began to fall at first lightly, and shortly after heavily, early on the morning of the 31st, and continued with but slight intermission till the evening of 1st November, *from which time up to the end of the storm at 6½ A. M. it came down in torrents.* This is quite peculiar to *Seendooree*; as the storm elsewhere increased the rain lessened. The rain was accompanied with gusts of wind, at first light, but gradually increasing in force up to the time of the storm. The wind began to blow strongly about midnight of the 1st.

The above accounts shew pretty clearly that bad, and, for the season, unusually rainy weather had, for thirty-six hours before the cyclone was felt, been prevalent throughout the district, that the wind gradually rose, and that it became a hurricane at some time between 10 and 12 of the night of the 1st.

2nd.—*The direction from which the wind blew.*—Whether it came from one direction throughout the storm, or whether it changed?

#### *Places in North of District.*

The wind began north-east, continued to blow from that direction till about 3 A. M., when it veered round due east for about two hours, then turned to south, and in the morning blew south-west, and finally west at the close of the storm.

#### *Places in North-East of the District.*

Wind at first about north-north-east, then turned round gradually to the south-west, from which direction the wind was blowing when the storm ceased.

#### *Places in East of the District.*

The accounts received from these quarters vary somewhat. *Sreedharpore* reports the wind all along was coming from the east, and when it became very strong it blew from south-east, north, and west, and with a southern wind the storm abated in the morning.

At *Nyhatta* the wind blew first from the north, then went to north by east, and gradually veered round to the south.

At *Nurail* it began north-north-east, gradually shifted to east-south-east, south-south-west, west, when the weather cleared up.

#### *Places in the South-East.*

Here again accounts vary.

The Deputy Magistrate of *Khoolna* writes, the wind came from east, and continued to blow steadily from that direction till 2 A. M., when it blew from the south, and continued to do so till 9 A. M.

Another account from *Khoolnah* says, the wind on the 1st came from east for some time and then from south-east, and the blowing of the south-eastern wind continued up to 9 p. m., of the 1st instant, when it came from east and south-east very furiously as that of a very great storm. At about midnight it also changed its course and came for half an hour from the north; at about 1 A. M. it again changed its course, and came from the south very furiously.

A third account from the same place says, the wind commenced from north-west, then shifted due north, north-east, east, and lastly veered to the south, when it was strongest.

At *Morrelgunge* the wind began to blow from north-east, continuing till 10 p. m., when it changed to the south-east, which quarter it steadily kept till 5 A. M. of the 2nd.

#### *Places in South of District.*

Wind reported to have come first from the east up to 2 A. M., then from the south and south-west.



*Places in West of District.*

Wind came first from north, veered east and south-east round to south-west.

The same may be said of places on the north-west.

There is no place in the district where any distinct lull in the cyclone was felt, but judging from the direction of the wind given above, I should say the centre must have been somewhere on the west of the district, and that the cyclone came up from towards south, towards north.

*3rd.—End of the Storm.*

From all accounts the storm began to abate on the morning of the 2nd, and although the wind continued blowing for some time afterwards, all danger had passed away by 6 A. M. of the 2nd.

In many places lights or luminous appearances were observed in the sky during the storm.

At Chandra, on the north of the district, my informant states that about 5 o'clock, amid the rain and storm, a peculiar light, somewhat like a red cloud, was observed in the north. It did not remain in the same place, but changed its position and disappeared in about an hour.

At Jenidah no such peculiar light was observed.

At Huzlabut, in the north-east of the district, there appeared in the south a cloud of a pink color. It seemed like a wind cloud, but black clouds obscured it.

At Magoorah a peculiar lurid appearance at the beginning of and during the storm was noticed, but no particulars of it are given.

At Nyhatta during the height of the storm the horizon presented a lurid appearance, like that of a conflagration at a distance, and the Natives there report the emission at intervals of balls of fire.

At Nurraih a bright glow was remarked during the night on the horizon from south-west, and removing up to north-west. It disappeared with daylight. The same peculiar appearance was visible at Sreedharpore, commencing about 4½ A. M., and disappearing with the dawn.

At Kaliah my informant saw a light after two 2 o'clock as if a house was on fire in the west. I thought it to be quite close, in my uncle's house, which is about 4 or 3 yards off. I sent my father to see, and he saw it as if somewhat further off. I saw it for about an hour, always in the west, getting further off. Other people said they saw it in the south, and east, but I did not. It disappeared about 3, and I did not see it again."

At Khoolnah a peculiar light was visible in the sky at 3 A. M. It was first visible towards the north; after half an hour it changed to the east, and subsequently to the south, where it disappeared.

Another informant at the same place says, from 3 A. M. up to 5 A. M. peculiar lights were visible in the sky; some red or fiery clouds in the south-west, and a great luminous body in the south were visible. The light seemed as of that of lightning all over the southern and south-western parts of the sky.

The same light was seen at Altapole in the south, and in other places in the west and north-west.

At one place in the district from which I have received information, *viz.*, Morrelgunge, the storm was accompanied with thunder and lightning.

I have not heard that there was anything like a storm wave at any place in the district. At Khoolnah and Bagirhaut the rivers rose considerably, and the water rapidly subsided. At Morrelgunge there was a very high tide, the water coming up to the house of the Messrs. Morrell, which is well raised, and submerging the surrounding crops. It does not appear that this rising of the water was the occasion of loss of life, and it certainly saved much of the crop which temporarily sunk and escaped the violence of the wind, and, after the subsidence of the water, emerged without having sustained much damage. The water which rose thus does not appear to have been salt; at all events no damage was done by it to the crops of the character which salt water always occasions.

*Damage done by the Cyclone.*

I append a table showing the damage done to houses and cattle, with statistics of the loss of human life. I only give these figures as shewing the loss approximately: it is almost impossible to procure anything like accurate statistics without a detailed enquiry of a character which I have neither time nor establishment to conduct. The figures are given on information furnished by the Police, supplemented by other local enquiry. I am at a loss to understand how so much damage was caused to cattle in the southern and eastern portions of the district as compared with other parts, except on the supposition, which enquiry verifies to some extent, that many in the south and east were blown away and drowned in the rivers and bheels which there intersect the country. In those parts the cattle too had been, in consequence of the inundation, brought on from the maidans to which they might have escaped, and were cooped up in large numbers on very small space on the raised spots of ground on which their owners' houses stood. When the storm came they could not take refuge in the maidans, where they would have been in circumstances tolerably safe, and when the houses fell they caused great destruction amongst the herd gathered in beside them.

In Morrelgange and in Bagirhaut, where the rivers rose, death of cattle by drowning was doubtless the most common form of destruction.

The number of houses put down as destroyed seems incredible, but yet I believe the numbers given are rather under than over the mark.

The loss of human life is put down at 126. These figures I am afraid do not represent the actual loss which must have occurred owing to the foundering of boats in the numerous rivers of the district and of the Soonderbuns; but no accurate statistics of these deaths can possibly be procured. Considering the size of the district, and the violence of the storm, I am thankful that the loss has been no heavier. As regards *trees*, no figures are given to show the loss, but the destruction of the fruit gardens has been very great, and the loss sustained by respectable men and women of the upper classes, whose chief means of income was derived from these gardens, has been most serious. The loss in this respect it is impossible to repair for years, and were it not fortunately the case that the present is not the fruit season, and that the effects will not be felt till after the immediately disastrous effects of the storm have partially disappeared, distress might have resulted.

The date tree is most extensively cultivated in the district, and the sugar manufactured from its juice forms an important item in the commerce of several large and important places on the west of Jessore. The destruction of these trees I at first believed to be very great. Subsequent inquiries have, I am glad to say, led me to believe that the first accounts were considerably exaggerated. I now believe, from enquiries which I have personally made in parts of the district where the trees are largely cultivated, that the yield this year will be  $\frac{1}{4}$ th less than in ordinary years. About  $\frac{1}{10}$ ths of the number of the trees have been uprooted and destroyed, and to the extent of  $\frac{2}{3}$ ths the productive power of remainder has been diminished. This loss of productive power will not, however, be lasting, and the trees I am told recover gradually.

When the cyclone came a most luxuriant Amun rice crop was upon the ground. The high price realized for rice during the previous two years had led to the cultivation of paddy being largely extended. An abundant Aous crop had been reaped in August, and the Amun had largely begun to form in the ear when the storm came.

In many places the rice was beaten down, in others submerged, in others, where the ear had more fully formed, the tops of the stalks were cut as with a knife. The submerging of the rice in the southern parts saved it from injury, for the water in which it disappeared protected it from the violence of the wind, and on its subsidence the stalks rose again without having sustained any damage for their temporary submersion.

I think the loss of rice crop throughout the whole of the district may fairly be stated to be about one-fourth of the crop on the ground, and less than one-fourth of an average crop.

As regards the cold-weather crop also, the cyclone caused no inconsiderable damage. The inundation which immediately preceded it had not subsided; the waters were still upon the ground, and the usual khatian sowings had not been made; the rain which fell along with the cyclone, caused any seeds recently put into the ground to rot, and the wind destroyed any plants which had got above the ground. The losses to houses took up the attention of the people so much, the magnitude of the cyclone calamity disheartened them at first so much, and the procuring of seed grain at anything like a reasonable price from the dealers was so difficult, that fresh sowings were only partially made. The crop derivable from these late sowings will not be so full as from sowings made at the proper season, and I shall consider the district fortunate if a six anna cold weather crop is reaped.

*Relief measures and attitude of the people after the Cyclone.*

For the first few days after the cyclone the people seemed stunned, and they appeared incapable of making any exertion to help themselves in the midst of the distress which was apparently universal. I admit freely that for the first week I thought the distress would be most severe, and the first accounts which came in from all quarters were anything but cheering.

Matters, however, soon began to mend, and it was found that what the people most needed was a little encouragement and incitement to work for themselves, rather than pecuniary aid. The Sub-Divisional Officers, and all the Officers available at the Sudder Station, were ordered out to various parts of the district, with instructions to help those who really needed it, and encourage the people generally. The assistance of the prisoners was given to those in the station who needed their houses rebuilt, and it was surprising how soon all began to better themselves, and erect some kind of shelter, often of a very primitive description, for themselves and their families. The Agents of some of the Zemindars were sent for, the Zemindars were written to, and aid was promised if required. I am convinced that if aid had been given at once in the shape of money, the idle only would have benefited by it, and numbers of people would have been converted into needy idlers, who by a little encouragement soon betook themselves to work, and cast upon neither their neighbours nor the State any pecuniary burden.



Five thousand Rupees was voted by the Cyclone Relief Committee in Calcutta, and Rupees 500 were placed at the disposal of each Sub-Divisional Officer, for the relief of those who were really unable to put up the houses which had been blown down. It was soon found that very few of this class were in the district, that a detached case or so was to be found in villages, but that generally the people were in a position to fight against the calamity; that they united and helped one another to repair the damage done, and that in the case of indigent widows and old men, who had neither the means nor the strength to erect their houses, private assistance and private charity sufficed to meet their wants. Not more than 500 or 600 Rupees has been expended altogether of the grant made by the Committee, and assistance to a considerable extent, in a promiscuous fashion, has been given by the Zemindars, and under landholders generally.

The district, it must be remembered, had previously been specially fortunate in escaping the ravages made by the cyclone of 1864, and the scarcity of 1865-6. The condition of the ryots has every year been improving; an abundant harvest had been reaped, so abundant that most of them cleared themselves from the Mahajuns, and in every cultivator's house there was at the time of the cyclone a store of rice sufficient for half a year's consumption, and a few rupees which his good fortune in previous years of plenty, and scarcity in other districts, had enabled him to accumulate. With these stores to fall back upon, the ryots soon began to recover their spirits, and their previous good fortune enabled them, without much privation, and with very little real suffering, to fight against the injuries of the cyclone.

The chief want felt at the time was that of labor. This of itself was a good sign, and showed that one class at least was beyond the reach of want. The day after the cyclone, laborers could not be procured in Jessore at a Rupee per head per day, and weeks after, with the competition of prison labor in the market, coolies who immediately for the time became intuitively (although not practically) acquainted with the duties of *ghoramies*, received 5 annas per diem and their food. There are still in the town and in the villages many houses to be put up; many who previously had four or five rooms, have contented themselves with putting up one or two rough houses sufficient for shelter. The great majority of the cultivating class have been so busy reaping their Amun crop, that they have been content with very inferior house accommodation, but I have not yet heard, although careful enquiry has been constantly made, of any real cases of distress on account of the want of accommodation. There are numerous Bewas, Bustums, and Bustomis in every village, who come for aid, but it must be remembered that these were generally houseless before the cyclone appeared, and that they have only the claim of professional beggars to be listened to.

6. But the question still remains, supposing the people, on account of the previous bountiful Aous harvest, have been able to tide over the distress hitherto, will they be able to prolong their endurance till a year, it is to be hoped of ordinary fertility, partially makes up for their losses? The loss occasioned by the cyclone ought not to be felt until the time when the crop which it damaged would, under other circumstances, have been ready for consumption, and it remains to be seen whether the damage sustained has been of so serious a nature as to give rise to apprehensions that when the Amun crop comes into consumption, the supplies should not be sufficient to keep the people above want.

I think I may safely say that there is no reason for such apprehension. With a twelve anna crop, the people can well afford to stand a calamity even like the cyclone. The price of rice is the best test of the general feeling on this point. Rice has been also lately cheaper than in ordinary years, and, except for a few days immediately subsequent to the cyclone, the price has latterly been at all times moderate. When the Amun comes into the market now, a further fall in price will take place, and although the prospects of the cold-weather crops are by no means cheering, the prosperity of the district fortunately does not depend much upon these crops, and if the rice crop be but fair, a deficit in other crops has not much effect in diminishing the general well-being of the people.

The loss in cattle is one which will not be felt till next sowing time, and, with the loss even of 10,000, I do not think the stores of the district are much weakened. Calcutta is largely supplied from this district, and it might be well to find out from purchasers there, if the cyclone has caused any perceptible rise in prices.

I think the people of the district deserve very great credit for the way in which they have borne a calamity which may not cause active distress, but which has given rise undoubtedly to very wide spread inconvenience and privation. They have weathered the storm with but very little complaining, and many exhibitions of endurance, for which Bengalis do not generally get much credit.

In conclusion, I shall be wanting in my duty if I failed to acknowledge the cordial co-operation which I met with from my Sub-Divisional Officers, and from all the Zemindars and gentlemen of the district whom I had occasion to address after the cyclone. Without such help it would have been well nigh impossible to have brought the district through the trial, with so comparatively slight suffering and distress.

## JESSORE DISTRICT.

*Statement of general losses by the Cyclone of the 1st November 1867 in the jurisdiction of Police Stations.*

Stations.	Number of Villages.	Number of Homesteads.	No. of Houses.		Total number of houses.	No. of Houses DESTROYED.			Number of lives lost.	Number of Bullocks killed.	Number of other domestic animals killed.
			Pucca houses.	Kutchia houses.		Pucca houses destroyed.	Kutchia houses destroyed.	Total number of houses destroyed.			
Jessore	371	21,617	452	72,970	73,422	13	59,551	59,564	10	16	38
Monerampore	316	18,232	215	56,804	57,019	4	47,517	47,521	3	43	5
Kessulpore	146	9,447	404	27,100	27,504	3	22,973	22,976	5	11	7
Kallygungo	251	11,983	190	34,572	34,762	...	21,822	21,822	12	17	8
Gudkhalee	115	7,127	200	20,797	20,997	10	17,628	17,638	8	37	14
Bagarpara	103	7,540	146	27,763	27,909	7	17,680	17,687	13	90	107
Jenidah	267	11,370	80	35,988	36,068	...	22,307	22,307	5	31	7
Soilkopa	309	13,973	58	53,777	53,835	1	30,093	30,094	7	31	46
Kotchandpore	94	5,137	304	16,954	17,258	1	11,548	11,549	3	29	19
Hurnakundo	54	3,518	49	10,398	10,447	...	6,753	6,753	8	10	2
Magoorah	278	12,705	159	64,317	64,476	...	59,752	59,752	8	152	1
Mahomedpore	196	8,114	33	43,119	43,151	...	25,483	25,483	5	101	16
Sinakhalee	100	5,481	15	8,851	8,866	...	8,544	8,544	6	15	...
Nurrail	279	20,593	221	60,001	60,222	4	39,204	39,204	4	3,250	217
Lahazarah	312	24,361	132	62,377	62,509	1	33,580	33,587	3	2,200	14
Khoolnah	140	9,582	22	9,560	9,582	...	3,740	3,740	...	403	283
Bailaghatta	61	2,600	...	10,514	10,544	...	6,270	6,270	...	1,137	124
Detuty	190	6,054	95	18,189	18,284	...	14,337	14,337	6	2,400	121
Doomaria	77	4,082	34	11,401	11,435	...	7,109	7,109	10	29	...
Bagirhaut	146	3,383	...	6,831	6,831	...	6,831	6,831	5	144	...
Rampal	82	1,201	2	1,860	1,862	...	1,623	1,623	...	357	17
Morrelgungo	67	3,628	...	11,904	11,904	...	2,243	2,243	4	1,575	206
Moldahaut	68	3,378	...	14,726	14,726	...	7,111	7,111	1	1,315	9
Total	4,018	1,86,045	2,810	6,70,802	6,73,612	37	4,74,395	4,74,432	126	10,473	1,262

No. 5250.

FORWARDED to the Magistrate of Jessore.

JESSORE,

The 23rd December 1867.

E. I. SHUTTLEWORTH,

District Superintendent of Police.



Table showing direction of the wind, &amp;c., from 7 P. M. 1st November to 7 A. M. 2nd November 1867.

	7 P. M.	8 P. M.	9 P. M.	10 P. M.	11 P. M.	12 P. M.	1 A. M.	2 A. M.	3 A. M.	4 A. M.	5 A. M.	6 A. M.	7 A. M.
1. Jessore	Wind moderate, N. E., N. E. rain heavy.	Wind N. E., rising steadily, strong gusts from E. and N.	...	...	...	...	Wind veered to E. rain very heavy. At 1-30 wind inclined to S. At 1-45 gusts very strong, calms and gusts.	Wind rather moderated, but heavy gusts from E. At 2-15 wind increased, from N. E.	Wind very strong, more inclined to E. At 3-45 inclined to S. At 3-55 heaviest gusts from E.	Wind S. and S. E. At 4-40 wind more and more S.; height of the storm, and blowing S. and S. E.	Wind still strong, going round to S., and later to S. W.; luminous bodies visible; no rain.	Storm abating; wind S. Still blowing S. W.; and W., but not hard.	...
2. Nurrail	Wind N. E., strong incessant driving rain; sky dark and gloomy, before.	Wind rising, blowing from N. E. rain as before.	Wind N. E., by E., coming in violent gusts; evident that cyclone had come.	Wind E. N. E., stronger gusts; rain as before.	Wind E. by N. blowing furiously in gusts; flashes of sheet lightning; no thunder; flashes occasional.	Wind E., coming in fearful gusts.	Wind E. S. E., blowing harder than ever; glow to the S. W. on the horizon like a distant village on fire.	Wind S. E., blowing the heaviest horizon to S. W. and W. in a glow like dawn of day.	Wind S. E. by S. blowing as strong with longer intervals between the gusts; less rain; horizon to W. S. W. and N. W. glowing.	S. S. E.; blowing but moderating; glow to W. and N. W., none to S. W.	S. S. W., a light wind; no rain, clouds.	S. S. W., a light wind; no rain, clouds.	...
3. Narendrapore	Wind N. with heavy rain. The wind changed from N. to N. E., and continued N. E. till—	...	...	...	...	...	Wind E. and raging with great fury; heavy houses blown down from S. E.	Same as at 1 A. M.	...	Wind still S. and S. E.; light seen on W. and N. E. at the same time.	Wind S. and S. W., light seen S. W. and W.; last seen on W., and then died away.	Wind S. W.	As at 5 A. M.
4. Macoorah	East, not hard, with rain.	E.	N. E.	N. E.	N. E.	N. E., blowing furiously, with rain.	More E.	East; no rain	East; no rain	S. E., blowing furiously; S. E.; luminous bodies seen about this time.	...	...	...
5. Baschibant	Wind blowing hard from N., attended with rain.	Wind continued from N. as at 7	...	...	...	Wind from N. E., a regular storm.	Wind E.; very slightly moderated.	Wind S. E., and blowing furiously; no rain.	As at 3 A. M.	Wind S.	Wind S. W.	S. W.	At 5 A. M. the wind went S., at 11 A. M. S. W., at 1 P. M. W.
6. Rajshah	Wind blew slightly from N. E. up till 10 P. M. when it became more E.	...	...	...	...	...	Still blowing E. but S. E. more S. E.	S. E.	...	S. E. by S.; a strong light S. seen on the N. W.; lasted half an hour.	...	S. W.	...
7. Kallia	Wind was N. at first, accompanied with rain, at 10 N. E.	...	...	...	...	...	...	...	...	...	...	...	...

From LORD H. ULICK BROWNE, Officiating Commissioner of the Chittagong Division, to the Secretary to the Government of Bengal,—(No. 150, dated Chittagong, the 29th February 1868.)

I HAVE the honor to acknowledge the receipt of the Junior Secretary's letter No. 5054, dated the 9th December last, and to submit, for the information of the Lieutenant-Governor, a statement shewing the losses incurred in this Division, and the following report on each of the four points in connection with the late cyclone.

2. In the Noakhally District the loss of 10 lives is reported in Dukhin Shabazpore and four in the Out-posts of Farashgunge and Gazeepore. In the other Districts of this Division I am happy to say that no lives were lost as far as can be ascertained.

3. It will be observed from the enclosed statement that the loss of cattle on the former District has been very great, the total number of buffaloes, cows, and goats, aggregating 3,168. In Chittagong, where there was in fact no cyclone, there has been a very slight loss of crops from inundation.

4. The cyclone does not appear to have had any effect on the general health. There were a few cases of cholera and small-pox in Noakhally and Tipperah after it, but the Collectors do not think that these are attributable to the cyclone. In Chittagong there is nothing to report.

5. In Chittagong the only thing noticeable in the weather on the 1st and 2nd November last was a high wind overnight, accompanied with heavy rain, caused doubtless by the storm, which raged at the same time in the western part of the bay. The high wind, however, did not amount to a gale.

6. In Tipperah the Collector reports that on the 1st of November there was slight rain, and a moderate wind blowing from the north-east. It gradually increased in violence, and on the 2nd there was a most violent gale up to 2 P. M., when it began to moderate, and at 4 P. M. entirely subsided.

7. In Noakhally the gale began at 7 P. M. on the 1st November, blowing at first from the east, but afterwards veering round to the west, from which quarter it blew strongest. The tide which was an ordinary neap tide made early in the morning of the 2nd and flooded the country. It was this inundation that caused by far the greater part of the losses. There was no "bore" on the river, but still the water rose at least  $4\frac{1}{2}$  feet higher than the level of a tide.

8. With the exception of the lamentable loss of cattle in Noakhally, the cyclone does not appear to have done much damage in the Districts of this Division.



*Particulars of loss caused by the Cyclone of the 1st November 1867, according to Police Reports.*

1	2	3	LOSS OF CATTLE.				8	10	11
			4	5	6	7			
District.	Places where the cyclone occurred.	Loss of human life.	Buffaloes.	Cows.	Goats.	Total.	Houses blown down.	Country boats lost.	Loss of crops.
NOAKHALY	Banni Station	...	18	19	4	40	87	...	The loss of crops is estimated at three annas (average) of the whole District. It varied from 8 to 16 annas in the parts affected.
	Amsergong	...	...	...	...	...	...	25	
	Sundeep	...	...	251	...	258	...	...	
	Lukhipore	...	...	...	...	...	...	...	
	Begungrunge	...	...	...	...	...	...	...	
	Farsingunge Out-post	...	...	35	...	39	...	...	
	Doulat Khan	10	121	157	...	278	...	2	
	Tozunuddy	...	27	38	...	65	...	10	
	Hatech	...	560	1,100	...	1,660	...	...	
	Taholy Out-post	...	119	377	...	496	87	1	
	Sudharam	...	54	261	...	315	1	...	
	Gazepoora Out-post	2	...	46	...	46	1	2	
	Rangung	...	...	...	...	...	...	...	
TIPPERAH	Total	14	849	2,313	6	3,168	178	40	One anna of the crop of the Lukshan Police station was destroyed and two annas of that of Juggerna-hdiggy.
	Lukshan and Juggerna-hdiggy	...	...	...	...	10*	34	1 Boat sunk and recovered, 1 Chittagong Brig was driven upon a high and dry chur.	
CHITTAGONG	Maiskhal, Ramoc and Ookhia	...	...	...	...	...	...	...	In Chittagong 640 droons of paddy has been destroyed and 6 droons of kulics towards the south of the river.
	...	...	...	...	...	...	...	...	

\* No details have been given by the Collector as to whether these are buffaloes, goats, or cows.

H. U. BROWNE,  
*Officiating Commissioner.*

CHITTAGONG;  
COMMISSIONER'S OFFICE,  
The 29th February 1868.

From R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division, to the Secretary to the Government of Bengal,—(No. 109Ct., dated Kishnaghur, the 11th March 1868.),

In continuation of my No. 38Ct., dated 7th February, I have the honor to submit two reports in original by Messrs. Bell and Westland, numbered and dated as in the margin, containing all the details that can be procured of the course and effects of the Cyclone of last November in Nuddea.

No. 74Ct., dated 13th January.  
No. 2024, dated 5th March, with enclosure.

2. These accounts are very much less complete and valuable than those for Jessore, in consequence perhaps, chiefly, of the absence of four of the Sub-Divisional Officers in Calcutta at the examination, at the time of the storm.

3. I have very little doubt, as already reported, that the storm was on the whole decidedly less violent in Nuddea than in Jessore. The north-west of the District escaped almost altogether.

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From H. BELL, Esq., Officiating Collector of Nuddea, to the Commissioner of the Presidency Division,—(No. 74Ct., dated Camp Chagdah, the 13th January 1868.)

I HAVE the honor to acknowledge the receipt of your memorandum No. 28 of the 21st ultimo, calling for information regarding the late Cyclone, and to enclose a statement giving the information called for by the Government of Bengal. The statistics have been furnished by the Police, and revised by the Sub-Divisional Officers; and, in my opinion, considerably understate the damage which has been done. In the Kishengunge and Hanskhally Thannahs alone some 3000 or 4000 head of cattle must have perished, but the Police returns give only 680. Similarly, I find from the returns that in the same two Thannahs 750 houses have been blown down: whereas Baboo Brindabun Chunder Sircar gave me in a return, showing that, on his estates alone, which are principally situated in this quarter, 10,000 huts were destroyed. I feel confident that the Baboo's estimate is much nearer the truth. I regret to say that I can at present furnish no returns regarding boats. The destruction, however, was enormous; hardly a boat on the rivers escaped.

2. With regard to the crops, it is estimated that one-fourth of the Amun dhan left by the inundation was destroyed. The destruction of Urhur and Teel was of course much greater, and amounted on an average to three-fourths of the crop. The cold-weather sowings also suffered severely. In consequence of the inundation the sowings all over the District were late, and the rain which accompanied the Cyclone rotted the seed in the ground, and necessitated the re-sowing of large tracts of country.

3. I do not think the general health of the District has been in any appreciable degree affected by the Cyclone. The several Relief Committees which have been formed have been untiring in their exertions, and by their assistance the poor throughout the District have been enabled to re-erect their houses.

4. Mr. Savi' was, I believe, the only gentleman in the District who noted with accuracy the progress and character of the storm, and I have written to him to furnish you with the result of his observations.



From JAMES WESTLAND, Esq., Officiating Collector of Nuddea, to the Commissioner of the Presidency Division,—(No. 2024, dated Kishnaghur, the 5th March 1868.)

• I HAVE the honor to submit a meteorological report regarding the recent cyclone.

The information collected is much more meagre than one would desire, and one cause to which it is to be attributed is that the cyclone came at a time when many of the Sub-Divisional Officers were absent in Calcutta, and that Natives are not in the habit of observing storms from a meteorological point of view, but spend their time in waiting till it is over. I have no doubt you will recognize the propriety of confining one's self to ascertained facts, in a report of this sort, instead of collecting the vague statements and rumours which are all that is procurable from native quarters.

I begin with Bongong as the part where the storm is supposed first in this district to have reached. The weather was bad for two days previous—drizzling showers of rain, with gusts of wind from the east. Rain set in in greater quantity about 9 P. M. of the 1st November, and the wind increased in violence at the same time, and up till 11 o'clock bearing from east to north as it became stronger. The wind was strongest about midnight. It then abated slightly, and at 1 P. M. there was a moderate wind only, blowing from a point slightly west by north, but from 2 A. M. till 3½ A. M. it had again risen and was blowing with violence. By the latter hour the cyclone may be said to have ceased, though a strong breeze continued to blow up till 8 or 9 of the morning.

The rain decreased as the storm gathered strength.

Of all places in the Sub-Division, it appears to have blown with most violence at Moheshpore, where even masonry walls gave way before it. Many people living near Bongong say that about 2 A. M. a streak of light, broad, more vivid than lightning, but noiseless, shot across the sky from west to east.

From my own observation I can state that, in the eastern part of the Bongong Sub-Division, the trees, &c., were blown down south-westward, some light ones westward. This shows the *beginning* of the violence of the wind to have been when it was in the north-east.

From Chooadangah the information is little. Mr. Webster returned after the storm, and found the Thahnah and the Department Public Works Bungalow all in ruins, and his Hajut roof blown off. The storm there blew from the north at the beginning, and from the west afterwards. Its duration is put down as, from 12 midnight to 8 A. M., but includes more than the cyclone proper.

At Kooshtea the time is written from 2 A. M. till 10 A. M., and it is stated that it blew first from the east and then from north-east. The rain gauge marked 12 inches of rain; but for this and other reasons I believe that rain gauge is in the habit of giving false reports.

At Ranaghat, which is adjacent on the west to the Bongong Sub-Division, a strong easterly wind with rain prevailed for three days, and on 1st November, at 8 or 9 P. M., the wind turned to the north-east and then to the north, from which point it blew with the greatest violence, and caused the greatest destruction. The sky towards the east had a reddish appearance. The violence of the storm appears to have varied in even adjacent places.

At Kishnaghur the previous three days had been unusually bad weather, very cloudy and cold, and each evening especially gusts of wind and rain set in from the east. Those that occurred in the evening of the 1st November were stronger and more frequent than had been before, and they settled down into a strong east or north-east wind, which began to blow strongly about 10 P. M. From that time it increased in violence, passing round to the north, whence it must have been blowing about midnight; after that it passed still further west, and the strongest wind blew from north-west about 2 o'clock till 4 o'clock. The trees which were blown down fell in a south-east direction, but I observed many broken branches of trees lying almost east of the trees to which they belonged: probably it requires a stronger wind to break off a branch than to blow over a tree.

The night was profoundly dark, and there was none whatever of the light said to have been seen in other places. The wind was still strong when day-light came, but it gradually subsided, and the sun came out at mid-day on the Saturday. I append an interesting series of barometrical observations by Mr. Savi of Moheshgunge, which give particulars of the storm at the various hours.

*Observations of the late Hurricane from 7 a. m. of 1st November to 4 o'clock p. m. of 2nd November 1867.*

7 o'clock A. M., 1st November 1867, very nasty weather, blowing half a gale from north-east and north, with drizzling rain.

	Barometer	...	29.77.		
	Aneroid	...	29.91	...	Thermometer 75°.
At 8 o'clock A. M.	Barometer	...	29.77	...	} Blowing fresh with rain.
	Aneroid	...	29.91	...	

9 o'clock A. M.	...	Barometer	...	29.77	...	} Blowing in gusts from East-North-East.
		Aneroid	...	29.92	...	
10½ o'clock A. M.	...	Barometer	...	29.77	...	} Still blowing half a gale from North-North-East.
		Aneroid	...	29.94	...	
11½ o'clock A. M.	...	Barometer	...	29.77	...	} Strong gusts at intervals, rain more moderate.
		Aneroid	...	29.91	...	
12 o'clock	...	Barometer	...	29.76	...	} Wind North-North-East, and blowing fresh.
		Aneroid	...	29.88	...	
1 o'clock P. M.	...	Barometer	...	29.76	...	} Wind fresh and due North, accompanied by small drizzling rain.
		Aneroid	...	29.88	...	
2 o'clock P. M.	...	Barometer	...	29.71	...	} Wind in gusts, from North-North-East, with rain.
		Aneroid	...	29.85	...	
3 to 3½ o'clock P. M.	...	Barometer	...	29.70	...	} Wind more moderate, but still in gusts.
		Aneroid	...	29.83	...	
4 o'clock P. M.	...	Barometer	...	29.70	...	} Wind more Northerly.
		Aneroid	...	29.82	...	
From 6 to 8 o'clock P. M.	...	Barometer	...	29.70	...	} Wind again increasing and blowing in gusts with small rain.
		Aneroid	...	29.81	...	
At 10-30 A. M.	..	Barometer	..	29.65	..	} Blowing very fresh with small rain.
		Aneroid	..	29.78	..	
12 o'clock, 2nd Nov.	..	Barometer	..	29.56	..	} Blowing most awfully from North-East, with driving rain.
		Aneroid	..	29.65	..	
At 1 o'clock A. M.	..	Barometer	..	29.41	..	} Gale increasing and blowing hard, accompanied by rain.
		Aneroid	..	29.52	..	
At 20' to 2 o'clock A. M.	..	Barometer	..	29.35	..	} Blowing tremendously from North-North-East, with rain.
		Aneroid	..	29.49	..	
At 10' to 2 o'clock A. M.	..	Barometer	..	29.33	..	} Wind North and blowing very severely.
		Aneroid	..	29.45	..	
2 o'clock A. M.	..	Barometer	..	29.31	..	} Wind as above.
		Aneroid	..	29.43	..	
At ¼ past 2 o'clock A. M.	..	Barometer	..	29.26	..	} Wind North-North-East with rain.
		Aneroid	..	29.38	..	
At 2-30 A. M.	..	Barometer	..	29.33	..	} The same.
		Aneroid	..	29.36	..	
At ¼ to 3 o'clock A. M.	..	Barometer	..	29.20	..	} Wind North North-West, blowing very hard in gusts, with rain.
		Aneroid	..	29.31	..	
At 3 o'clock A. M.	..	Barometer	..	29.17	..	} Ditto ditto.
		Aneroid	..	29.30	..	
At ¼ past 3 o'clock A. M.	..	Barometer	..	29.14.	..	
		Aneroid	..	29.28.	..	
At 3-30 A. M.	..	Barometer	..	29.11	...	} Blowing most severely from North-North-West and in gusts, with rain.
		Aneroid	..	29.25	...	
At ¼ to 4 o'clock A. M.	..	Barometer	..	29.10	..	} Ditto ditto.
		Aneroid	..	29.25	..	
At 4 o'clock A. M.	..	Barometer	..	29.10	..	} Still blowing a hurricane, and from North-North-West, accompanied by rain.
		Aneroid	..	29.24	..	
At 4-30 o'clock A. M.	..	Barometer	..	29.9	..	} A perfect hurricane now with rain, wind. North-North-West and West.
		Aneroid	..	29.23	..	
At 5 o'clock A. M. to 5-30	..	Barometer	..	29.10	..	} Wind more West but blowing severely. Barometer began rising gently.
		Aneroid	..	29.26	..	
At 6 o'clock A. M.	..	Barometer	..	29.20	..	} Blowing fresh from West and in gusts with drizzling rain.
		Aneroid	..	29.36	..	
From 7 to 9 o'clock A. M.	...	Barometer began rising rapidly although the wind was still blowing a gale.				
At 10 o'clock A. M.	...	Barometer	...	29.56	...	} Wind due West, and blowing a gale with drizzling rain.
		Aneroid	...	29.67	...	



At 11 o'clock A. M.	Barometer	...	29.62	...	} Wind West.
	Aneroid	...	29.77	...	
12 o'clock noon	Barometer	...	29.65	...	} Hurricane began to moderate; wind West, and rain.
	Aneroid	...	29.80	...	
At 1-30 P. M.	Barometer	...	29.68	...	} Hurricane abated.
	Aneroid	...	29.82	...	
At 4 o'clock P. M.	Barometer	...	29.68	...	} A beautiful calm sunny afternoon and bright blue sky; wind North-West.
	Aneroid	...	29.82	...	
	Inch.				
Total fall of rain	...	2.75			

From R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division, to the Secretary to the Government of Bengal,—(No. 32, dated Calcutta, the 30th March 1868.)

IN continuation of my No. 109Ct., dated 11th March, I beg to submit herewith Mr. Smith's Report in original upon the Cyclone of the 1st to the 2nd November 1867, as experienced in the 24-Pergunnahs.

2. Although this report is late, it is very complete and very valuable, and Mr. Smith deserves, I think, the acknowledgment by the Government of the care and intelligence with which he has prepared it.

3. The 24-Pergunnahs bore the brunt of the storm, and the suffering caused by it there was owing to former recent calamities, peculiarly great. I venture to say, however, that all that could be reasonably expected from the administration and from public charity was done in this District for the relief of the sufferers, and done energetically and well.

4. We profited largely by the liberal contributions to the Cyclone Relief Fund, of which a large share was expended in this District, and we owe perhaps still more to the zealous and self-denying services of that large band of workers, most of them Volunteers, whose names are given in Mr. Smith's 26th paragraph. I hope that I may be authorized to convey the thanks of the Government to each of these gentlemen for their humane exertions, and to Mr. Smith and his official subordinates, and other fellow-labourers upon the District Committees, for the share which they took in the work.

5. It is gratifying to me to be able to report that the gloomy anticipations of distress to result from the storm, which were entertained by so many well able to judge even to a recent date, are not as yet realised. There are no signs yet of any popular suffering or even of any need of relief works. We shall of course, however, continue carefully on the watch for such signs until the next harvest is secured.

6. Having sent on the Jessore and Nuddea reports to Government in original, I am unable to institute any general comparison of the effects of the storm in the three Districts of the Division, or to compile any connected sketch of the whole. This will, it is probable, be done better than I could do it, by the professional Department.

7. I shall be glad of printed copies of all these reports in due time.

From A. SMITH, Esq., Magistrate of the 24-Pergunnahs, to the Commissioner of the Presidency Division,—(No. 142, dated Alipore, the 23rd March 1868.)

REFERRING to your Nos. 204 of the 4th November, 88 of the 11th November, and 3Ct. of the 3rd December, information of the effects of

the Cyclone of the 1st November last on the District has been communicated to you from time to time as collected. I now proceed to submit, as requested in the orders of Government conveyed to me under your endorsement No. 28Ct. of the 21st January, a summary of the information obtained, whether already submitted or not.

2. This District was traversed by a storm in a Northernly or North-Easterly direction. The centre of the storm was considerably to the East of Calcutta. At Canning, Barripore, Atharabanka, Busseerhaut, Goverdenga and Satkhirah, the calm which indicates the passage of the central vortex of the storm is spoken of.

3. Travelling, as in these parts such storms uniformly do, from the Bay, it entered the District across the desert wastes of the Soonderbuns, and the storm-wave which is always carried with Cyclones on the ocean, and which in 1864 was borne on the populous country of the Northern Hidgelee and the shipping in the Hooghly, fortunately expended itself almost entirely on these wastes, and the small area of cultivated but thinly-peopled land which lies between them and the District Proper.

4. Beginning from Saugor Island the storm-wave extended to the extreme East of the District. In the Calpotton and the Cobaduck, Mr. Reilly reports that the water rose 6 feet above flood level. The North part of Saugor Island is reported by Baboo Sunjeeb Chunder Chatterjee to have been inundated, and the whole of the intervening Soonderbun lots appear to have been swept by the wave. At Port Canning the water rose to a height of 4 to 5 feet above the Canning Strand, and pouring over it inundated the town.

5. The origin of these storm-waves is evidently due partly to the reduced barometric pressure, but chiefly to the mechanical action of the wind which piles up the water in its gyratings and centrepetal motion round and towards the disc or discs of low barometer. The extent of the former influence is a matter of easy calculation. The pressure of the medium barometric column of 30 inches to which mercury rises in a vacuum, is equivalent to that of the height of 33 feet of water, that being similarly the medium height to which water rises in a vacuum. A reduction of two to three inches in the barometric column (The barometer in the central calm at Canti in 1864 stood at 28.025) will permit the water to rise about from 2 to 3 feet only.

6. This is therefore approximately the height due to reduced barometric pressure. To obtain absolute accuracy minute considerations of temperature are required, but they need not be considered here.

7. The remainder of the wave is due to the purely mechanical action of the wind. At Canning the inundation appears to have occurred about the time of the passing of the centre of the storm, about two hours before high water. As the storm occurred at night, no trustworthy particulars as to the mode of progress of the wave have been obtained. Mr. Irwin, who was sent to make enquiries at Canning and to the Eastward, says the rise of water was everywhere gradual. As the wind rose so the water rose. There was, he says, no mass of water forced up by the wind and coming with a rush from the sea, but a gradual rise owing to a disc of low barometer. It is clear for the reasons already stated, that the low barometer alone does not account for the whole or even any large part of the height to which the



water was raised. The alleged gradual rising, though in no way unlikely or improbable, is contrary to the particulars ascertained in 1864. I was told then by the surviving inhabitants of one of the most exposed villages situated at the point where the Russulpore flows into the sea, that the water there came in two huge waves, the first of which rolled to the foot of the embankment, and next rose over its coast. At Cowcolly the wave broke over the embankment during the central calm. At Tumlook, Mr. Haughton informed me that the wave was seen coming like a huge bone up the river. At Koilah Ghat, Mr. Grant's description is that the water all at once suddenly rose as if by magic, and slowly rolled towards him. Baboo Hem Chunder Kerr, who was at the time Deputy Magistrate of Diamond Harbour, tells me that there also the rise was not gradual but sudden. Mr. Irwin mentions also that at Katirbarria the water began to flow in at 9 p. m. This was earlier than I should have expected from the experience of 1864, but in no way unlikely. The same difficulty is experienced in fixing the time of the inundation at Canning. There can be no doubt, however, that there the principal volume of water was poured into the town at the time of the passing of the central vortex.

8. The phenomena which attended the storm at the Presidency are sufficiently well known, and I need not repeat them here. I may, however, give the readings of my barometer which were taken throughout the night from the time when it first became manifest to me that a Cyclone was impending till it passed over, and which shews the time at which the indication stood at each vegisimal point. During the extreme violence of the storm it oscillated with every gust, but the readings indicated are those at which it stood:—

Time.		Indication.
5.45 P	..	... 29.75
3.20	..	... 29.7
8.45	..	... 29.65
9.30	..	... 29.6
9.45	..	... 29.55
10.30	..	... 29.5
10.40	..	... 29.45
10.50	..	... 29.4
11.5	..	... 29.35
11.30	..	... 29.3
11.40	..	... 29.25
11.55	..	... 29.2
12.6 A	..	... 29.15
12.17	..	... 29.1
12.30	..	... 29.05
12.45	..	... 29
1.	..	... 28.95
1.20	..	... 29.9
1.35	..	... 28.35
2.	..	... 28.95
2.30	..	... 29.
2.45	..	... 29.05
2.52	..	... 29.1
3.7	..	... 29.15
3.10	..	... 29.2
3.25	..	... 29.25
4.40	..	... 29.3
3.55	...	... 29.35
4.10	...	... 29.4
4.25	...	... 29.45
4.40	...	... 29.5
5.	...	... 29.52
5.27	...	... 29.6
5.17	...	... 29.75
9.	...	... 22.85

9. From Diamond Harbour the Deputy Magistrate reported that early in the morning of the 1st November last, while it was yet dark, the sky became cloudy, and the wind began to blow from the East, and this state of weather continued till dusk when the wind veered a little to the North. It then began to blow from the North-East and continued till 10 p. m., the force of the wind gradually increasing. At this time the wind changed its course and began to blow from the North in the shape of a severe gale. At midnight the wind veered to the North-West increasing vastly in its force. At about 2 in the morning of the 2nd idem, it came on from the West and at about 5 o'clock the severity of the storm greatly decreased. It, however, continued in a mild form till 10 a. m., all this time rain fell in torrents, especially after 10 o'clock.

10. At Barripore the Cyclone began after sunset of the 1st November with a high wind from the North-East. It was then only an ordinary gale, and gathered strength between 8 and 9 p. m. At midnight the wind was found blowing from the North direct, but it cannot be ascertained at what hour precisely veered to that point. This Northern blast was the one which caused most of the destruction attributable to the Cyclone. The wind veered to the West at about 3 or 3-30 a. m., and immediately before the change there was a luminous appearance and a lull in the wind. The luminosity was so strong that most people mistook it for the dawn, and it is described to have been quite equal, as regards the intensity of the light, to the "glooming" which precedes the dawn. It was sufficient to show distinctly such objects as leaves of trees, roads at some distance, &c. This luminous character of the atmosphere lasted about a quarter of an hour. The wind abated during the time that this extraordinary light lasted, but it was not exactly a lull. The wind veered to the West after this phenomenon disappeared, and it then blew with less violence than when it had blown from the North, nevertheless the force of the wind was fearful still, and the storm abated at about an hour before sun-rise. After it had abated the wind still continued to blow from the West. The most interesting fact here is no doubt the connection in the point of time observed between the extraordinary light, the abatement in the force of the wind and the changes in its direction. If the lull spoken of be that of the central calm which I suppose it was, though on the Western margin of it and not very distant, there can be no doubt that the time is as incorrect as that given at Satkhirah mentioned hereafter. At Canning which I next mention, the time when the lull occurred, though definitely fixed by European observation, is equally inaccurately given by the Natives.

11. At Port Canning Mr. Jeisk, the local Agent of the Port Canning Company, gives the following particulars: November 1st, wind from North to North-East equally with rain throughout the day. At 7 a. m. weather looked threatening and wind increasing at 8 p. m. blowing a stiff gale, increasing in violence as the night drew on, at 11 p. m. it was blowing a perfect hurricane and continued so up to 1-10 a. m. of the 2nd, wind veering round from North-East. At 1-10 a. m. (2nd November) a sudden lull took place which continued for about 25 minutes when it again commenced to blow furiously from the South-West, and continued so till 4 a. m. The wind gradually veering round to the Westward and North-West, at 4 a. m. the wind began to lessen in violence. The time of the lull spoken of here, where it was evidently noted carefully is, as was to be expected, almost simultaneous with the time of lowest barometer at Calcutta.

12. At Dum-Dum Major Wintle says the weather during all Friday the 1st was threatening. At 9 p. m. the gale commenced. It worked up



to hurricane at 12, between which and 2 A. M. it was at its height. After that it gradually abated till about 4 A. M. its violence ceased and it worked itself gradually off to a fresh breeze. The following account of the storm at this station is extracted from the Press.

DUM-DUM, 1ST NOVEMBER 1867.

7. P. M., barometer falling, 29·85', hard squalls with rain, a strong gale.

9. P. M., barometer falling 29·78', hard squalls, wind, and whirlwind at N. N. E.

9-30 P. M., barometer falling, 29·77', whirlwind, weather bad, increasing.

9-45 P. M., barometer falling 29·73', 5" a whole gale.

10 P. M., barometer falling, 29·71', 5" a whole gale.

10-20 P. M., barometer falling, 29·69', gale increasing.

10-40 P. M., barometer falling, 29·66', gale increasing.

11 P. M., barometer falling, 29·60', wind increasing, hauling to Westward in hard squalls.

11-15 P. M., barometer falling, 29·55', increasing, winds and violent squalls.

11-30 barometer falling 29·50' 5," violent squalls from N. N. E. to N. N. W. and back again to N. N. E.

11-45 P. M., barometer falling, 29·45', ditto winds and weather.

12 midnight, barometer falling, 29·42' 5," a hurricane, in which no canvass would stand.

2ND NOVEMBER 1867.

12-15 P. M., barometer falling 29·35', a hurricane.

12-30 P. M., barometer falling, 29·27', violent squalls, winds varying from N. E. to N. W. Dining-room doors and windows blown in.

12-45 P. M., barometer falling, 29·22', if possible hurricane increasing.

1 A. M., barometer falling, 29·12', do. winds and weather, more windows blown in, violent squalls.

1-15 A. M., barometer falling, 29·08', blowing as hard as I once saw it at East of Formosa in a Typhoon.

1-30 A. M., barometer falling, 29·04', wind not increasing N. Ely.

1-45 A. M., barometer falling, 29·00', wind not increasing N. Ely.

2 A. M., barometer falling, 28·96', wind not decreasing N. Ely.

2-15 A. M., barometer falling, 28·94' 5", about the same but lulls in the squalls longer N. E. to N.

2-30 A. M., barometer rising, 28·95', about the same but lulls in the squalls longer N. E. to N.

2-45 A. M., barometer rising, 28·99', violent squalls lulling more sensibly.

3 A. M., barometer rising, 29·07', wind decidedly less, N. N. E. squalls less violent, rain taking off considerably.

3-15 A. M., barometer 29·14,—A whole gale, wind moderating, violent squalls less frequent.

3-30 A. M., barometer 29·22'—Strong gale, or in which a good ship might carry close reefs; sharp squalls and rain.

3-45 A. M., barometer 29·28'—Do. gale, squalls less frequent and less violent.

4 A. M., bar. 29·34'.—Fresh gale or in which a good ship might carry top-gallant sails.

7 A. M., bar. 29' 75'.—An 8-knot breeze wind W. N. W. dark fleecy clouds driving from North, rain taking off.

11-25 A. M., bar. 29' 95'.—6-knot breeze, detached opening clouds with intervals of clear thin sky. Sun out, rain ceased.

13. From Barrackpore Captain Walcott says the storm continued from between 9 and 10 P. M., to nearly 5 A. M., being most severe from half an hour after mid-night till about 3 A. M., Mr. Davis, the Police Inspector, gives a slightly fuller account. He says the storm began about 8 P. M., with strong wind and slight rain. It kept increasing and at 10 P. M., it blew a perfect hurricane, and continued so till about 4 A. M., when it slightly abated, but continued with heavy rain till about 8 A. M. It blew from the North all night, but shifted round to the North-West about 5 A. M.

14. From Barasat Deputy Collector Shevaparsaud Sundyal (Mr. Clark was absent attending his examination) gives the following. His account of the direction of the wind, if correct, would seem to indicate that the body of the storm had there first a North-Easterly and then a North-Westerly direction. The storm, he says, commenced about 6 P. M., with a strong East wind, about 9 P. M. it turned to North-East when its violence greatly increased. At about 1 A. M. it blew with less force from the South-West. Towards day-break it changed to South and South-East, when its rage began to abate.

15. From Busseerhaut Baboo Shama Churn Chatterjee gives a very full and a very interesting account which I re-produce in original. It will be seen that he notices the luminous appearances alluded to at Barripore, and which were noticed also at Jessore. A full account of these, as observed by Captain Graham, in the Cyclone of 1864 on the Jhenai river in Mymensingh, is given at page 68 of the report published at the instance of Government of the storm of 1864. It will also be noticed that the waters of the Echemutty thus high up rose as much as five feet above its ordinary level.

"I have the honor to bring to your notice that on the night of the 1st of November a Cyclone almost equal in violence to the great and memorable Cyclone of the 5th of October 1864 took place at Busseerhaut, of which the particulars are as follows :—

"On the 30th ultimo the sky was perfectly cloudless and the weather evidently fair till evening, when the sky became cloudy and the rain set in at 8 o'clock P. M. in slight showers and continued to fall throughout the night. On the 31st during the day and night it rained pretty heavily, but as yet there was no symptom of any storm. The wind blew as usual, now and then becoming only a little too strong. On the 1st of November during the day time there was incessant fall of rain, some times in very heavy shower and some times slightly, but there was no perceptible change in the atmosphere indicating the approach of a Cyclone. Just at evening the wind commenced to blow hard. It was not then coming from any fixed direction but was whirling round.

"Gradually its fury became more and more violent. At 8 o'clock P. M. it was in a state which might properly be called a gale. From 8 o'clock it assumed a wild aspect, and it was due North-East and was stronger. From 12 to 12½ its direction was direct East and its strength had at this time reached its chinax. Soon after there was a lull which continued till half past three, when the wind changed its direction to the West, and resumed its work and went on with it with less violence till 8 A. M. the next morning. From 8 A. M. its force began to abate, and at 9 o'clock everything was over.



"During this interval the water of the river was gradually on the increase, having reached its highest limits (about five feet above its usual level) at 4 o'clock in the morning. Although there was no inundation in the Sub-Divisional Head-Quarters, there can be no doubt that in lowland there must have been an actual overflowing of the waters of the river, and information of which when received will in due time be furnished."

*P. S.*—It is rather singular to hear from people who themselves have witnessed the scene that about 1 o'clock A. M. when the wind was blowing from the East, flashes of luminous light were visible towards the North-East and South-East, and it is further given out (a report of which I have no reason to disbelieve) that masses of burning materials fell in front of houses of the individuals like the fall of Aerolites.

16. Mr. Carstairs gives the following account of the storm at Satkhirah. It would seem therefrom that Satkhirah was on the Eastern margin of the vortex. Mr. Carstairs was not at Satkhirah at the time of the Cyclone, and the obvious error as to the time at which the lull occurred is doubtless due to the fact that he had to collect the information from people who did not attach much importance to the time, and gave it roughly from their recollection. The storm began about 10 P. M. when the wind was blowing a gale from the East. The wind gradually veered to the South and so round to the West. The hurricane was at its worst from midnight till 4 A. M.; there was a marked lull just before midnight, and after that the hurricane rose again to its highest fury. The wind gradually subsided from 4 A. M. and at 9 A. M. the storm had quite ceased.

17. The inferences deduced from these accounts which form, I fear, a very imperfect contribution to the meteorology of the storm are, that the calm vortex which was experienced at Barripore and at Canning, and also as it is mentioned at Atrabanka, a few miles East of Canning, was about 20 miles wide, that it travelled Northwards and Eastwards and where again clearly defined points are met with in its progress, Goverdenga and Satkhirah it was still about the same width of 20 miles. Dr. Shircore ascertained on his visit to the Dispensary at Goverdanga that the lull was experienced there.

18. The storm-wave extended to a very great distance East, as compared with its extent. West of the vortex, while there was apparently no noticeable rise in the Hooghly, the water at Khoolnah, in Jessore, is reported by Mr. Rees to have risen as much as 5 feet. This is accounted for by the direction of the wind in its gyration on that side forcing up the water, while on the other side it would drive it back.

19. The most serious result of the storm was the loss of life. Everywhere throughout the District deaths were caused by the fall of houses, but the principal portion of the loss was due to the inundation. The total number of lives ascertained to have been lost was 3,813, of which 285 were in the suburbs, and the remainder in the District. The distribution is given in the annexed Statement.

20. Everywhere throughout the District the houses of the people were thrown down, cattle like human beings were killed by the fall, and were also drowned by the inundation where it occurred. The total ascertained loss of horses and cattle, and its distribution is given in the Statement annexed.

21. Second to the loss of life, the loss of crops has however been the most important result of the storm, so far as this District is concerned. A separate report has been submitted on this subject, and the details need not be repeated here. Generally throughout the southern portion, the loss has amounted to about half the crops, and throughout the northern portion it has been about one-fourth. In some parts of the small Soonderbun area inundated by the salt-water, the loss was as much as 12 annas to 14 annas, but the area is fortunately small. The effect on the North and South divisions is not however proportionate to the actual loss. The Northern half had a good crop of early rice already harvested, and in most places there are cold-weather crops. It has moreover only to sustain itself till the next early rice harvest in July. The South, on the other hand, has neither early rice nor cold-weather crops. It had also suffered very severe distress towards the end of 1866, owing to inundation by the Cyclone of 1864, and draught of 1865. There was fortunately a good harvest in 1866, but it was mostly sold to defray the arrears of rent accruing from past years. Owing to the harvest having again largely failed over the same area, there is reason to fear that a certain amount of distress will be again felt during the ensuing season among the labouring and the poorer portion of the agricultural community. The area where the crop has however thus failed is comparatively small, and easy of access. The prices of food will therefore be little, if at all, higher than throughout the rest of Bengal, and they fortunately promise to be cheap. The distress, if it occurs, will be from want of money, not of food. There will be no danger of any one with money being unable to procure food at reasonable prices. Consequently all that will be required, if anything be required, will be to supplement the local labour market by Public Works, if that market falls short of the necessities of the community. In the North Soonderbun area, owing to the large demand for firewood for the Calcutta market, the people there will not, it is anticipated, experience any difficulty in obtaining ample labor. The result of my enquiries during my cold-weather tour show, that there is everywhere much less cause for anxiety than I was at first disposed to fear.

22. As however this will form the subject of a special report, and works have been already proposed, sufficient to commence with, if requisite, I need not dwell upon the subject further at present, but proceed to notice the action taken to mitigate the suffering which more immediately resulted from the storm, especially from the loss of shelter caused by the fall of almost all the houses in the District.

23. One of the consequences of such storms is that they interrupt the ordinary channels of communication and delay information, which in the ordinary course of things should be earlier received. The telegraph wires connecting Canning with Calcutta were thrown down, and the storm-wave washing over the Railway so injured it that for a day or two the extent of damage done at Canning, and the inundation to the East of it, were not known. As soon as information reached, food and fresh water were despatched both by the Officers of the Municipality and by the Port-Canning Company. On the 4th I visited the town with yourself, and saw that all that was required was being done. On the 5th Mr. Rees, the Officiating Extra Joint-Magistrate, was despatched with the Steamer *Pioneer* with a supply of food, clothing, and water, and proceeded giving relief where required along the Atrabanka, the Kaligunga, the Rymemgul, and the Feringhee Khall, as far as Khoolnah, in Jessore, and then returned to Calcutta. He did not find the distress so severe as was expected.



## 24. In the suburbs of Calcutta the violence of the storm had scarcely

Mouivee Abdool Luteef Khan Bahadoor.  
 Baboo Debendro Nath Mullick.  
 Coomar Hurendro Krishna.  
 Baboo Tarruck Nath Mullick.  
 Colonel Turnbull.  
 Baboo Juggoda Nund Mookerjee.  
 W. Heyslum, Esq.  
 C. Sytanundo Ghosal.  
 W. P. Davis, Esq.  
 Moonshree Buzlooa Ruheem.  
 Manickjee Rostamjee.  
 T. A. Apcar, Esq.  
 Captain H. Howe.  
 Baboo Premkissen Mookerjee.  
 J. F. Galiffe, Esq.  
 W. L. Granville, Esq.  
 R. Harvey, Esq.  
 A. Shanks, Esq.  
 Reverend C. E. Driberg.  
 P. Rochemooddeen.  
 Baboo Woomesh Chunder Mitter.  
 Dr. S. M. Shireore.  
 Baboo Chundro Madhub Ghose.  
 C. H. Wilson, Esq.  
 J. Paterson, Esq.  
 E. V. Haldane, Esq.  
 Baboo Heera Lall Seal.  
 Dr. J. Fawcus.

ceased when vigorous efforts to clear the streets, which were everywhere blocked up by trees and houses which the violence of the wind had thrown down, were in rapid progress. Before evening the principal thoroughfares were all clear. I also during the day issued a notification withdrawing the prohibition to re-build thatched house. On the 7th the Municipal Commissioners met. All outstanding taxes on dwelling huts amounting to about 40,000 were remitted, the suburbs were divided into parts, and each of the Commissioners noted in the margin undertook the relief operation in them. The relief operations were conducted with the following result. It was determined by the Commissioners that the aid should be limited in ordinary cases

to 5, and in special cases to 8 :—

Number of men relieved.	Number of women relieved.	Total.	Amount spent.
440	5,608	6,048	21,554 5 6

25. The operations were conducted with Rs. 18,750-6-2 placed at the disposal of the Commissioners from the Calcutta Famine Fund, and with Rs. 3,000 received from the General Committee formed for the relief of sufferers from the Cyclone, of the amount Rs. 196 were transferred to the District Committee.

It was resolved not to raise any separate or special fund, but that all persons wishing to assist should contribute to the General Committee.

26. Similarly after I had visited Diamond Harbour with you and Barripore, and Mr. Joint-Magistrate Carstairs had gone through Baraset, Buseerhaut and Satkhirah, and information had been collected sufficient to shew that special action was required, a meeting of the principal residents of the District was convened at my Office, and the South portion of the District in which, for the reasons already stated, it was known that the distress would be severest, divided into jurisdictions according to the Police divisions, and the gentlemen marginally noted\* undertook the task of relief. A committee consisting of the gentlemen also marginally † named was appointed to supervise relief. Five additional Magisterial Officers were posted by Government to the District to aid in the operations. In the South, over an area of 1000 square miles, every village was visited and relief given where required. In the North this

\* Baboo Juggot Chunder Gangooly, Deputy Magistrate, the Revd. Mr. R. Robinson, W. H. Thompson, Esq., Assistant Magistrate, Baboo Hurry Das Dutt, Baboo Shama Churn Patitundo, Baboo Mohindro Comar Showderry, V. Irwin, Esq., Assistant Magistrate, W. O'Rielly, Esq., Deputy Magistrate, the Rev. Mr. C. E. Driberg, the Revd. Mr. James Long, Robert Sinclair, Esq., Deputy Magistrate, Baboo Sanjub Chunder Chatterjee, Deputy Magistrate, the Revd. Mr. P. Thomas, Baboo Bajoy Madhob Mookerjee, Deputy Magistrate, R. T. Sevestre, Deputy Magistrate, Baboo Raj Rajshu Bhattacharjee, Moonsiff, the Revd. Mr. J. J. Payne, Baboo Chunder Nath Banerjee, Baboo Tarapersud Chatterjee, the Revd. Mrs. M. S. Seal, the Revd. Mr. H. L. Harrison, Baboo Raj Coomar Raj Chowdry, Baboo Sharodoperson Mookerjee, Baboo Hurroloil Roy, Baboo Shama Churn Chatterjee, Deputy Magistrate, Baboo Brojo Lall Seal, Moonsiff, Baboo Promo Chunder Ghose, Deputy Magistrate, H. Clark, Esq., Assistant Magistrate, the Revd. Mr. O'Brien Smith, Captain Walcott, Cantonment Magistrate, Dr. David Waddie, Revd. W. Drew.

† A. Smith, Esq., Magistrate of the 24-Per-gunnahs, Ex-Officio Chairman, F. L. Beaufort, Esq., E. V. Haldane, Esq., Captain Birch, Revd. C. E. Driberg, Revd. J. E. Payne, Raja Narandrakrishna, Koomar Bhanudhakrishna Rai Bahadoor, Moonshree Buzlooa Ruheem, Koomar Hurendrakrishna, Honorary Secretary.

was not considered necessary, but relief was given on the application of the Sub-Divisional Officers or other trustworthy agency to such extent as was considered requisite with reference to the circumstances of each particular locality. In Baraset two committees were formed and acted under the Sub-Divisional Officer. Similarly in the Barrackpore Sub-Division Committees were constituted and acted in concert with the Cantonment Magistrate. In the other Sub-Divisions the Sub-Divisional Officers personally and with the aid in some cases of influential residents, among whom Baboo Saroda Prosonno Mookerjee of Goverdenga and Baboo Hurro Lal Seal of Takee may be especially named, gave such assistance as was required. The following Statement exhibits the relief given :—

*Detailed Statement of the Cyclone Relief operations in the District of 24-Pergunnahs from the commencement to their close.*

Name of the Thannah.	Number of villages relieved.	Number of persons relieved.			Amount disbursed.	Average amount disbursed.	Remarks.
		Male.	Female.	Total.			
					Rs. As. P.	Rs. As. P.	
Mutlah	164	775	1,109	1,884	4,466 9 3	2 1 11	Out of this amount disbursed for bailing out water in tanks, Rupees 104-10 for conveyance of fresh water Rupees 342-11. Travelling charges Rupees 15.
Sultanpore	250	819	3,867	4,686	14,598 10 0	3 0 7	
Joynuggur	169	1,124	1,481	2,605	10,441 0 6	3 12 8	Out of this sum Rupees 159 disbursed for clearing and bailing out water in tanks.
Soonderbuns	...	190	378	568	4,000 14 11	2 4 10	Out of this sum Rupees 80-3 disbursed for conveyance of fresh water. Purchase of Rum Rupees 12 and clearing and bailing out water of tank Rupees 170, and building materials Rupees 150. Purchase of provisions sent out by the Steamer Pioneer on emergent expedition Rupees 2,278-0-5.
Bistopore	312	1,064	2,868	3,932	10,395 8 0	2 10 0	Out of this sum Rupees 42 spent for the purchase of cholera medicines. Petty contingencies Rupees 17-8.
Atcheepore	30	6	431	437	3,551 6 0	8 2 0	
Saugor Island	9	110	27	137	718 0 0	5 3 10	
Bankipore	103	795	1,803	2,598	7,403 0 0	2 13 7	Out of this Rupees 80 disbursed for the travelling expenses of the relieving officer.
Dabeepore	137	77	293	370	1,671 8 0	4 7 8	Out of this sum Rupees 12-8 disbursed for the travelling expenses of the relieving officer.
Gobindpore	51	64	176	240	606 0 0	3 15 3	
Tallygunge	285	1,351	1,614	2,965	10,601 13 3	3 9 0	Out of this sum Rupees 33-2 disbursed for the travelling expenses of the relieving officer.
Baroopore	416	1,619	2,131	3,750	9,300 10 0	2 7 7	
Arreadoha	12	99	263	362	1,265 0 0	3 6 9	
Dum-Dum	112	312	138	450	28 4 0	5 1 0	Rupees 2,250 have been distributed by grant from the Central Committee at Calcutta through Dr. Graham.
Nawabgunge	6	123	247	370	1,481 0 0	4 0 0	
Nyehatiy	52	44	295	339	2,660 4 0	7 18 6	
Kudumgatchee	103	302	471	773	1,400 0 0	1 13 0	
Kolinga	53	146	464	610	3,267 8 6	5 5 8	
Bhowanipore	51	46	294	340	1,798 0 0	5 4 8	Out of this sum Rupees 498 worth of blankets distributed.
Satkhirah	...	...	...	...	...	...	
<b>Total</b>	<b>2,315</b>	<b>9,066</b>	<b>18,150</b>	<b>27,216</b>	<b>89,834 10 11</b>	<b>3 4 8</b>	

*Note.*—Received from the Cyclone Relief Fund, Calcutta  
Ditto from the Municipal Commissioners of the Suburbs being their un-  
expended balance

Disbursed by the relieving Officers

Advertising and Printing charges  
Extra Establishment  
Petty contingencies and Stationery

Balance in hand

Rs. As. P.  
90,000 0 0

196 0 0

90,196 0 0

89,834 10 11

361 5 1

85 5 0

140 5 10

361 5 1

0 0 0

ALIPORE,  
The 17th February 1868.

(84.) HARENDRA KRISHNA,  
Honorary Secretary to the Cyclone Relief Fund.



*Statement shewing the loss of life and property in consequence of the Cyclone of 1st November 1867 in the District of 24 Pergunnahs.*

Sub-Divisions.	Thannahs.	Loss of Life.				Loss of Cattle.	Houses.	
		Men.	Women.	Children.	Total.		Pukka.	Kucha.
Suburbs of Calcutta ...	...	133	143	39	285	...	62	26,898
Sudder ...	Tallygunge ...	74	61	48	183	3,908	70	39,716
	Bistoopore ...	50	31	20	161	1,543	...	17,986
	Atcheepore ...	7	4	...	11	77	...	4,942
	Orriaparra ...	37	34	22	93	862	11	8,677
	Arreadoho ...	8	5	...	13	28	13	4,647
Barripore ...	Barripore ...	137	160	87	334	2,408	3	37,076
	Joynuggur ...	173	107	190	570	3,569	5	29,033
	Port Canning ...	216	118	102	430	2,743	2	8,457
Diamond Harbour ...	Govindpore ...	8	16	9	33	400	...	8,375
	Daveepore ...	4	8	...	12	870	...	11,222
	Sultaipore ...	387	340	88	821	5,616	4	30,418
	Bankipore ...	184	171	63	418	1,648	...	34,562
Dum-Dum ...	Dum-Dum ...	9	17	...	26	84	...	5,218
Barrackpore ...	Nowabgunge ...	11	9	1	21	71	26	2,716
Baraset ...	Nyhatty ...	4	6	...	10	233	13	4,960
	Kudumbogachee ...	44	49	22	115	2,047	30	11,449
	Tababarriah ...	23	31	21	75	3,079	5	12,804
Busseerhaut ...	Busseerhaut ...	8	10	...	18	079	...	26,205
	Kollingah ...	12	9	12	33	366	1	21,511
	Hurrowah ...	7	16	10	33	1,124	...	17,735
	Bhowanipore ...	19	16	17	52	1,072	6	14,116
Satkhirah ...	Satkhirah ...	28	13	5	46	644	9	20,890
	Kalaroah ...	6	11	...	17	519	...	23,141
	Assasoonee ...	1	1	...	2	605	...	9,491
	Kaligunge ...	60	10	15	55	1,800	...	3,000
Total ...		1,590	1,502	721	3,813	36,318	269	4,36,740

27. It was at one time feared that owing to the pollution of the tanks, from which the water required for domestic purposes is taken, by the vegetable matter thrown into them much sickness would ensue. I am happy to say that thus far this fear has not been very largely realised. There have been, it is true, outbreaks of sickness here and there, especially of Cholera at Rajpore, Joynuggur and about Port Canning, but they have not been of very unusual severity. Medical aid has been freely rendered wherever they occurred. The relieving Officers in some instances had knowledge of medicines and were supplied with them at the cost of Government. The Native Doctors who had been posted previously by Government at my request to give aid at Boral, at Rossa, at Mograhaut, and at Loneesa, were utilized; supplied with medicines at the cost of Government, and sent as occasion required to give relief; more recently the travelling dispensary appointed to the Division has been placed at my disposal, and has been sent to render aid about Barripore.

28. All operations have now been completed. The whole of the funds placed at the disposal of the District Committee have been spent, and the Extra Magistrates have been replaced at the disposal of Government. From the information I received in the course of my cold-weather tour, I have no doubt that the relief rendered was everywhere sufficient and effectual.

29. The selection of objects of charity was necessarily a matter of great difficulty, but I have every reason to believe that on the whole the funds were judiciously distributed by the relieving Officers.

30. Their task was not an easy one, and their duty was mostly performed at a great sacrifice of personal comfort. I commend the

gentlemen who devoted their time and labour to this object to the favorable notice of the Government, as well as the gentlemen who constituted the District Committee and Honorary Secretary.

Resolution by His Honor the Lieutenant-Governor of Bengal,—dated Fort William, the 15th May 1868.)

READ Circular letter of the 9th\* December last, calling for reports from Commissioners on the effects of the Cyclone of last November, in the districts of their respective Divisions, particularly with reference to (1) the amount of the loss of life; (2) the amount and description of the loss of property in houses, crops, and boats; (3) the general health after the Cyclone; (4) the character and progress of the storm in different localities.

Read replies to the above from—

The Commissioner of Cuttack, No. 967, dated 19th December 1867.

"	"	of Burdwan, "	72,	"	31st	"	"	"
"	"	Officiating Commissioner of Dacca, No. 46T., dated		"		"	January 1868.	
"	"	"	"	of Rajshahye, No. 134Ct., dated		"	29th January 1868.	
"	"	"	"	of Chittagong, " 150,	"	"	29th February "	
"	"	"	"	of Presidency Division, No. 38Ct., dated		"	7th February 1868.	
"	"	"	"	of	"	"	109Ct., " 11th March "	"
"	"	"	"	of	"	"	32, " 30th "	"

Read also the following reports, alluded to in the above—

From the Officiating Commissioner of Dacca, No. 1583, dated 12th November 1867.

"	"	"	"	of	"	"	1634,	"	20th	"	"
"	"	"	"	of	"	"	5T,	"	2nd	December	"

Board of Revenue, No. 1957M., dated 6th December 1867, submitting Commissioner of Burdwan's No. 650A., dated 29th November 1867.

The above communications, which do not now call for any

\* Baboo Juggut Chunder Gangooly, Deputy Magistrate, Komar Harendra Krishna, the Revd. R. Robinson, W. H. Thompson, Esq., Assistant Magistrate, Baboo Hurry Dass Dutt, Baboo Shama Churn Patitundo, Baboo Mohendro Comar Chowdery, V. Irwin, Esq., Assistant Magistrate, W. O'Kieily, Esq., Deputy Magistrate, the Revd. G. E. Driberg, the Revd. James Long, Robert Sinclair, Esq., Deputy Magistrate, Baboo Sunjeeb Chunder Chatterjee, Deputy Magistrate, the Revd. P. Thomas, Baboo Bejoy Madhoh Mookerjee, Deputy Magistrate, R. T. Sevestre, Esq., Deputy Magistrate, Baboo Raj Rajishur Bhuttacharjee, Moonsiff, the Revd. J. E. Payne, Baboo Chunder Nath Banerjee, Baboo Tarapersaud Chatterjee, the Revd. M. S. Seal, the Revd. H. Harrison, Baboo Ruj Commar Rai Chowdry, Baboo Sharadaprosno Mookerjee, Baboo Hurroolal Roy, Baboo Shama Churn Chatterjee, Deputy Magistrate, Baboo Brojo Lal Seal, Moonsiff, Baboo Purno Chunder Ghose, Deputy Magistrate, H. Clark, Esq., Assistant Magistrate, the Revd. O'Brien Smith, Captain Walcott, Cantonment Magistrate, Dr. David Waldie, Revd. W. Drew, F. L. Beaufort, Esq., E. V. Haldane, Esq., Captain Birch, Rajah Narandrakrishna, Moonsiee Abduloo Luteef Khan Bahaduroo, Baboo Debendro Nath Mullick, Baboo Tarruck Nath Mullick, Colonel Turnbull, Baboo Juggoda Nund Mookerjee, W. Heysham, Esq., Commar Sytanundo Ghosal, W. P. Davis, Esq., Moonshee Burgoon Ruheem, Manickjee Rustonjee Esq., T. A. Apar, Esq., Captain H. Howe, Baboo Prankissen Mookerjee, J. F. Guiliffe, Esq., W. L. Granville, Esq., R. Harvey, Esq., A. Shanks, Esq., Prince Roheem-ooddeen, Baboo Woomesh Chunder Mitter, Dr. S. M. Shircore, Baboo Chunder Madhub Ghose, C. H. Wilson, Esq., J. Paterson, Esq., Baboo Heera Lal Seal, Dr. J. Fawcus.

not now call for any special orders will be published in the *Gazette*. The Lieutenant-Governor, however, desires to take this opportunity of recording the thanks of Government to all those who took part in the measures for the relief of sufferers, and particularly to the gentlemen\* whose names are entered on the margin of paragraph 26 of the letter No. 142, dated 23rd March, from the Magistrate, 24-Pergunnahs, to the Officiating Commissioner of the Presidency Division. The Lieutenant-Governor's acknowledgments are also due to Mr. Smith,

Magistrate of the 24-Pergunnahs, and to Mr. Monro, Officiating Magistrate of Jessore, for the full and interesting reports which they have furnished.

ORDER,—Ordered, that a copy of the above Resolution be forwarded to the Commissioners of Cuttack, Burdwan, Dacca, Rajshahye, Chittagong, and Presidency Divisions, for information.

Ordered also, that the above Resolution, and also the papers to which it relates, be published in the Supplement to the *Calcutta Gazette* for general information.

### Protection of Saugor Island from inundation.

From J. S. CARSTAIRS, Esq., for Magistrate of the 24-Pergunnahs, to the Commissioner of the Nuddea Division;—(No. 380, dated the 21st November 1866.)

I HAVE the honor to transmit herewith, for perusal and return, the report of the Deputy Magistrate of Diamond Harbour of his visit to Saugor Island.

2. It will be seen that distress prevails in four of the said Abads visited, and that in the remaining one the proprietor, Prossono Dass Dutt, has cared for the interests of his tenants.

3. In the Abads in which distress prevails the owners would appear to have done almost nothing for them; and that they have not even repaired the embankment damaged by the cyclone of 1864.

4. In these circumstances it appears to me to be a matter for serious consideration in what shape public charity should be administered. If it be not worth the while of the proprietors to put the embankments in order and induce their tenantry to remain on their estates, it would, it seems to me, be a questionable use of funds of public charity to spend them in inducing people to remain where their lives are at all times exposed to serious danger, and it seems to me doubtful whether aid towards migrating elsewhere would not be the most effectual mode of administering relief.

5. Much money was spent on Saugor Island after the cyclone, and relief might be given to it temporarily now, but it cannot be permitted to become a permanent charge on the benevolence either of the public or the State.

6. I would solicit your early advice and instructions in the matter.

From R. T. SEVESTRE, Esq., Deputy Magistrate of Diamond Harbour, to the Magistrate of 24-Pergunnahs,—(No. 71, dated the 10th November 1866.)

WITH reference to your letter No. 66 of the 3rd instant, I have the honor to say I have been down to Saugor Island and visited Abads in which distress was said to exist. The boat you despatched reached Diamond Harbour on Monday evening, and I left on Tuesday morning, the 6th, and returned to Diamond Harbour on the night of the 9th instant, and now beg to submit a report.

I visited on Saugor Island the following places at which it was said the people were suffering:—

Khaseo Mara Monderetollah, called Mud Point, belonging to Mr. Hunter.

Company's Chur belonging to Mr. Fraser.

Moonee Gunga, belonging to Mr. Campbell.

Seokare Chuck, belonging to Baboo Preololl Mullick.

Dhobtat, belonging to Prossono Dass Dutt.

Dhobelat Abad is the last Abad on Saugor Island. There was no relief required by the ryots. The proprietor has generously provided them with every thing, and repaired the embankment which prevented the inundation of the 24th October from injuring the crops; 800 beegahs of land have been brought under cultivation, and there is now a full crop on the ground. The ryots said they wanted no relief; no relief was given.

The ryots of the five other Abads have been, and are, in great distress. The nearest place from which food can be had is Tangra Beechee, about 16 miles distant, and Channel Creek must be crossed to get to the mainland. I took down with me 32 bags of rice; I have distributed it, giving each individual two seers, and have sent down the remaining 24 bags by the Darogah of Port Canning Company. He came up with me to take charge of the rice, and will see it distributed to the sufferers. The ryots of the Abads say they have since the cyclone been suffering; that to sustain life they have sold every article they had, and are now reduced to utter destitution. The rice crop which in other parts of my Sub-Division promises a very good harvest is in these Abads comparatively nothing. The inundation of the 24th October has not done much injury. It is the field rat that had cut up the plants. The extent of injury done to the small quantity of land brought under cultivation would not be credited without having seen it. The relief that may be expected from the crops now on the fields will be for a short time. From some plots half, in others one-eighth the quantity of former years will be gathered. Relief must from time to time be given to alleviate the distress of these men. The first thing that requires to be done is to repair the embankments which were injured by the gale of 1864. Neither life nor property is secure at present. Any unusual rise in the river will inundate every place where the embankments are broken. It would appear that with one exception the proprietors of the Abads have done very little for the relief of the sufferers. They cannot be aware of the misery and distress that the ryots in the Abads are suffering. To embody every particular in this letter would lengthen it out. I beg to submit a copy of the diary which I kept, as every thing has been noted down in it.

TUESDAY, NOVEMBER 6, 1866.

1. Left Diamond Harbour at 11 A. M., reached Tangra Beechee at 2 P. M.; fair day. Found old rice 1 palee 2 seers, selling at 5 palees for a rupee; new rice at 5½ palees. The quantity of rice offered for sale was small. Market plentifully supplied with fish; native



The crops now on the ground have been extensively destroyed by rats that have cut up the plants as the paddy began to appear. The rats would appear to have been driven into the fields since the great gale of 1864. They have lived upon roots and bulbs, and increased to

Inundation.

Embankments.

Distress.

and continues to be great without any prospect of permanent relief. The ryots say they have sold all they had, and have now been reduced to the last extremity. They are unwilling to leave the place as they have been for the last thirty years in the place. Distributed 6½ bags

Relief.

General.

I think an outlay of Rupees 2,000 would repair the embankments and enable him to bring new ryots and supply the old ryots until the next season. Left Company's Chuck at 10, and proceeded to Abad Maree Gungā on the opposite side of the

Crops.

stream. This Abad belongs to Mr. Campbell, and is one of the largest Abads. The crops seemed to have suffered in a similar manner as the two other Abads by the ravages of the rats. Had it not been for this destruction there would have been a fair average crop. However, from what I saw I would say there will

Distress.

Relief.

be half the quantity of produce. The distress seems to be great. The ryots stated they had sold all their brass utensils, and were now reduced to the last extremity. There were 130 houses containing 538 souls. Distributed 12½ bags of rice. The remaining

Inundation.

bags of rice now at Diamond Harbour to be distributed to the sufferers at this and the other Abads. The inundation of the 24th October owing to the broken state of the embankments inundated some parts of the Abad, but it would seem to have done no injury to the crops. The repair of the bunds is

General.

actually necessary, as there is at present no security to life, or property. The place is exposed to inundation with every rise of the river. Seekurpore Saugor Island belonging to Baboo Preolall Mullick. Went on shore and inspected the rice fields. This Abad is the most neglected Abad of all the Abads on Saugor Island. It has not been quite cleared of jungle. The embankments are apologies of embankments and out of repair, and cannot keep out the salt water from the fields during ordinary rise of the river. The ryots complain that owing to the jungle their own lives and the lives of the cattle are exposed to be destroyed by tigers. The ryots on the Abad seem to have suffered very much; 3,00,400 beegahs have been cultivated, but owing to the destruction

Distress.

caused by rats and the inundation of the 24th October, the crops now on the field will not yield more than quarter the usual produce. Distributed 3 bags of rice that were left, giving each soul 2 seers. There are 41 houses containing 199 souls, some of the bags of rice now at Diamond Harbour will be sent for the relief of those sufferers immediately. Baboo Preo Nath Banerjee, Darogah of Port Canning Company and Naib of Abads at Mud Point, has undertaken to see the rice distributed among the sufferers. He goes up with me to Diamond Harbour to take charge of the rice.

Relief.

5. The Baboo should sell his interest in the Abad if he cannot manage it. He seems to have done nothing to assist his ryots. There is nothing but wretchedness and misery visible.

General.

NOVEMBER 9, 1866.

6. Reached Mud Point at 11 P. M. of the 8th instant. Went on shore at 6 A. M.,

Telegraph Office.

visited the Telegraph Office. Heard from the party in charge that the tide came over the bund which has not been repaired since the gale of 1864. There was 5 feet water for about half an hour; did no material injury. Inspected the fields belonging to Abad Khasee Mara; found the crops had not suffered from inundation but from the destruction of the stocks of paddy plant by rats which have over-run the fields; several small plots have been cultivated. The produce will be about half the usual quantity that these plots would have produced in former years.

7. The distress of the ryots is great. Relief was given to them with the ryots of

Distress.

Relief.

Monderetollah on the 6th instant. Khasee Mara and Monderetollah Abads are both at Mud Point and belong to Mr. Hunter. Left with the tide at 8 A. M., experienced very bad weather; boat rolling and pitching; articles in the boat thrown from one side to the other; boat went clear over a buoy partially sunk, supposed to have done no injury to the boat. Crew—a most miserable set. The only man up to the work was the ~~man~~. Put in at Culpee at 1 P. M. Left with the tide at 6 for Diamond Harbour. Reached at 11 P. M.

Memorandum from R. B. CHAPMAN, Esq., Officiating Commissioner of the Nuddea Division,—  
(No. 639, dated the 29th November 1866.)

Letter No. 360, dated 21st November 1866, from the Magistrate, 21-Pergunnahs. SUBMITTED in original, together with the enclosure,\* for the perusal and orders of the Board of Revenue.

It appears to me that we must certainly, under the circumstances stated, decline to assist in detaining the population on the Island by furnishing relief on the spot. At the same time we cannot of course discontinue expected relief without full notice. I propose to instruct the Collector to suggest to the Relief Committee to give full notice that no charitable relief will be distributed on the Island after the crops are gathered; the people should at the same time be advised where they may find relief on the mainland, and any reasonable demand for assistance in emigration should receive due attention.

The action of the Committee in this particular will require great caution to avoid giving cause of complaints to the proprietors, or those who have expended capital, perhaps, in locating laborers. But I quite agree with the Collector that if the lessees and the ryots find it to their interest to remain in such a locality, they must not expect to do so at the charge either of the public benevolence or of the Government.

Very early orders are requested.

From T. B. LANE, Esq., Secretary to the Board of Revenue, Lower Provinces, to the Commissioner of the Nuddea Division,—(No. 5461B., dated the 12th December 1866.)

IN reply to your letter No. 639, dated the 29th November last, and its enclosures, I am directed to state that the Board approve of your suggestion with regard to the relief of the people on the Saugor Island.

2. The original enclosures of your letter under reply are returned herewith.

From T. B. LANE, Esq., Secretary to the Board of Revenue, Lower Provinces,—(No. 5462B., dated the 12th December 1866.)

COPY of the above correspondence forwarded to the Government of Bengal for information.

From S. C. BAYLEY, Esq., Junior Secretary to the Government of Bengal, to the Officiating Secretary to the Board of Revenue, Lower Provinces,—(No. 3407, dated the 22nd December 1866.)

WITH reference to your endorsement No. 5462B., dated the 12th instant, I am directed to state that the Lieutenant-Governor approves of the orders passed by the Board on the subject of the measures to be taken for affording relief to the distressed in Saugor Island. His Honor desires that the Board will be good enough to request the Commissioner of the Nuddea Division to communicate at once with the proprietors of estates in the Island, and warn them that, under existing circumstances, Government relief will have to be withdrawn, and to ascertain what their intentions are regarding the ryots.

From T. B. LANE, Esq., Secretary to the Board of Revenue, Lower Provinces, to the Officiating Secretary to the Government of Bengal,—(No. 1951B., dated the 26th April 1867.)

I AM directed to acknowledge the receipt of Government order No. 3407, dated the 22nd December last, desiring the Commissioner of the Presidency Division to ascertain the intentions of the proprietors of estates on Saugor Island with regard to their ryots, and to warn the proprietors that, under existing circumstances, Government relief will be withdrawn.

2. It will be seen from the papers\* herewith submitted that the proprietors have no

\* Copy of letter from the Presidency Commissioner, No. 71Ct., dated 24th February last, and its annexure.

Copy of letter to the Presidency Commissioner, No. 595M., dated 2nd April.

Copy of letter from the Presidency Commissioner, No. 21, dated 5th April, and annexures.

intention of abandoning their estates. The Commissioner further insists that it is incumbent on them to construct sufficient protective works against the inundations that have been heretofore so destructive to life. Without these works,

he observes, the Government should decline to demise the right of cultivating the Island; and, on condition of the proprietors undertaking such works, he would concede to them the Island, revenue free, for ever. The Commissioner would further warn the ryots that, if they remain on the Island, they must understand that the Government will be in no way responsible for feeding them in case of calamity.

† Mr. A. R. MacIntosh, on behalf of Mr. H. Fraser.  
Baboo Prosad Dass Dutt.

Two of the proprietors† have remonstrated against the last mentioned suggestion,

as not warranted by the Government order under acknowledgment.

3. The Senior Member is of opinion that it would not be wise in Government to warn men of enterprise from an undertaking which is being encouraged to the utmost on the Soonderbuns mainland. The reclamation of Saugor Island would greatly lessen the risk of

life in the case of vessels wrecked while entering and quitting the Port of Calcutta. He does not, therefore, concur in the Commissioner's recommendations, which would probably deter people from settling on it.

4. The Junior Member remarks that it would not be just to hold out inducements to persons to cultivate an Island exposed, not to the mere risk of loss of life from inundation but to its certainty, though possibly at very long intervals, unless the necessary protection for life be afforded in the form of most extensive embankments, the cost of which no cultivation would probably repay. It is further, he thinks, to be considered what the effects of such embankments, if ever constructed, would be on the neighbouring and more valuable estates: nay even on Calcutta itself, where undoubtedly the effects of the inundation caused by the storm-wave of the cyclone of 1864 would have been found more injurious had that storm-wave been unable to expend much of its force on Saugor Island. Besides this there still remain vast tracts open to private enterprize, less exposed than Saugor Island. For these reasons Mr. Schalch agrees with the Commissioner, and he would give publicity to the warning as suggested by Mr. Chapman.

From R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division, to the Secretary to the Board of Revenue, Lower Provinces,—(No. 71Ct., dated the 20th February 1867.)

REFERRING to Board's order No. 5728, dated 29th December 1866, the accompanying correspondence appears to me sufficiently important to make it right that I should lay it before the Board, who will perhaps even submit it to Government.

2. In my No 2Ct., dated the 28th January, I referred not to such embankments as those of which Baboo Prosad Dass Dutt speaks, but to the larger protective works which are indispensable, if the inhabitants of the Island are to be preserved from being swept away once in about ten years, as they have hitherto been.

3. I am of opinion myself that the Government should absolutely decline to demise the right of cultivating Saugor Island (for which, be it remembered, it receives no revenue, and probably *never will* receive any revenue,) unless, as a condition precedent, the lessees undertake to construct embankments of sufficient height and strength, effectually and permanently, to protect the Island from the inundations that have been heretofore, periodically, so destructive to life; upon that condition I would concede the Island revenue-free for ever.

4. I believe that the operations for the reclamation of the Island hitherto have resulted only in immense loss of life and property; and though, so far as property is concerned, the Government is not perhaps called upon to interfere. I do not think that it can escape responsibility for the sacrifice of life that is still sure to be entailed, unless the protective works, of which I speak, be undertaken.

5. I do not mean to advocate any interference with the existing rights of lessees, but I believe these rights to be generally on the point of lapsing, if they have not lapsed.

6. Baboo Prosad Dass Dutt has, I believe, exerted himself most energetically and well, and I trust he may yet reap pecuniary profit. Nevertheless, I cannot recommend that the authorities should abstain as he wishes from warning the ryots even of his estate, that if they remain they must understand that the Government will be in no way responsible for feeding them in case of calamity.

From A. R. MACINTOSH, Esq., Calcutta, to R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division,—(dated the 10th January 1867.)

I BEG to acknowledge the receipt of your No. 6 of 7th January 1867, with enclosures, all of which will be forwarded to Mr. Fraser for his reply. In the meantime, as his Agent, I beg to inform you that the ryots on the estates of Ferintosh and Trowerland will be well paid for all the work they do in repairing the bunds, and when that or other resources of supply fail, they will receive advances or khorakee against the next crop, and further it is my intention by well bunding the estates to induce more ryots to settle upon them.

2. With reference to the Mud Point Estate, I have telegraphed to England and hope to receive instructions in a very few days how to act; in the meantime if any of the ryots desire to leave, they will be well taken care of in the estates of Trowerland and Ferintosh.

3. I would be glad, however, to learn the extent of the relief you have given to the inhabitants of these three estates, viz., Mud Point, Trowerland, and Ferintosh, as so far as I have learnt it, has been of the most meagre description.

4. I have distributed in cash through the agency of my Native Manager, from 1st April 1866 to 30th September 1866, the sum of Rupees 1,311 in Trowerland and Ferintosh, and Rupees 289 in Mud Point. A large sum for the help of the few ryots there, especially as only the new ryots required assistance.

5. The Native Manager has had entire control of this expenditure. I have, however, now taking steps to keep a check upon the management.

6. With this explanation I trust you will take no steps to induce the ryots to leave the estates, more especially as they will, if they find it to their advantage, do so on their account, the river navigation enables them at the most trifling expenditure to emigrate at any moment to places where labor is in demand for public works.



new emigrants who came last year, I must incur the whole charge of maintaining them. The realization of rent is of course out of the question, but I have embarked so much capital in the enterprise that no less for the sake of my ownself than for that of those who have on my invitation made their home on Saugor Island, I must apply my best energy and means to the revocation of my estate.

5. I seek no pecuniary assistance from the Government or the public in protecting my estate, but I humbly submit I am entitled to such consideration and moral support which the Government can legitimately give me for the furtherance of my undertaking. Whatever may be the intention of the Government with regard to the other grants on the Island, I sincerely and earnestly hope that in warning the ryots thereon they will continue there at their own peril, it will be distinctly explained to them that the prohibition does not apply to my estate. Any misunderstanding on this point may seriously injure my interest and blast all the hopes in pursuit of which I have laid out so much capital.

6. I take this opportunity to mention that I am desirous to import emigrants from mainland and other places for the extension of cultivation, and that several persons have already volunteered, but before I take this step I would solicit the favor of your views on the subject, as any interference of Government would put my interests in jeopardy. I need hardly add that the importation of additional laborers is necessary to increase the clearance operations and render them remunerative to me.

From R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division, to BABOO PROSAD DASS DUTT,—(No. 2Ct., dated the 26th January 1867.)

In reply to your letter dated 18th January, I have the honor to express to you my appreciation of the wise liberality which it appears you have exercised towards your tenantry on Saugor Island throughout the series of misfortunes that have befallen them.

2. The Officers of the Government have been already instructed to be careful in carrying out the orders to which you refer to do nothing to interfere between the proprietors of the Island and their tenants.

3. At the same time I have so strong a sense of the extreme hazard involved in a residence on Saugor Island, that however desirable the cultivation of the Island is I cannot hold out to you any expectations that I shall ever feel it my duty to advise the Government to extend any active encouragement, moral or other, to those engaged in its reclamation, unless, indeed, they be prepared to undertake protective works on such a scale as will secure the inhabitants against the inundations that have hitherto periodically swept them away.

From BABOO PROSAD DASS DUTT, to R. B. CHAPMAN, Esq., Commissioner of the Presidency Division,—(dated the 13th February 1867.)

I HAVE the honor to acknowledge the receipt of your letter No. 2Ct., dated the 28th day of January last, stating, in reply to mine of the 18th ultimo, that, however desirable the cultivation of Saugor Island, you cannot hold out to me any expectation that you would advise the Government to extend any active encouragement, moral or other, to those engaged in its reclamation, unless they be prepared to undertake protective works on such a scale as will secure the inhabitants against further inundations.

You also intimate that the Officers of the Government have already been instructed to be careful in warning the ryots in Saugor Island against their continued residence there, so as not to interfere between proprietors of the Island and their tenants.

Without presuming to pass an opinion on the measure which the Government may be pleased to adopt in respect to Saugor Island, I take the liberty to submit that any warning, however carefully worded, communicated directly to the ryots, is sure to mislead them, and induce in their ignorant minds an impression that the Government is not favorable to the reclamation of the Island; such an impression, it can easily be imagined, once in their minds, will not fail to work to the greatest detriment of the proprietors. In addressing the contemplated warning to the ryots, the Government, however reluctantly will, I need hardly add, necessarily place itself in a false position and involve the proprietors in serious loss.

On the other hand, I humbly think the object of Government will be fully attained if the necessary warning be given to the proprietors, it being their interest to protect their ryots from the calamities you desire to guard against. If they are told authoritatively that they must not look to Government or to the public for assistance in times of distress, they will naturally take such precaution as may be deemed necessary for the preservation of their own interests. As for the ryots they are always at liberty to choose their own habitations, and if they find that they are exposed to suffering by continuing in the grants, they will, as a matter of course, emigrate to other places which may be advantageous to them. . .

As for erecting protective works, Mr. Deputy Magistrate Sevestre has already reported that the embankments in my estate are in good condition, and that no damage was done to the crops thereon by the inundation of the 24th October last. The embankments have been lately repaired by me. His remark that the "first thing that required to be done (for the Saugor Island) is to repair the embankments which were injured by the gale of 1864; neither life nor property are secured at present does not surely apply to my estate, and I do not therefore see why it should be included in the general condemnation. I may be permitted to add that when I have incurred such a heavy outlay in feeding my ryots for more than two years, and in helping them to extricate themselves from the consequences of such unprecedented calamities as the cyclone of 1864 and the famine of 1865-66, the Government will admit that I am fully alive to the interests of my tenants, and that I shall be the last person to leave them without due protection.

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3. At the same time I have so strong a sense of the extreme hazard involved in a residence on Saugor Island, that however desirable the cultivation of the Island is I cannot hold out to you any expectations that I shall ever feel it my duty to advise the Government to extend any active encouragement, moral or other, to those engaged in its reclamation, unless, indeed, they be prepared to undertake protective works on such a scale as will secure the inhabitants against the inundations that have hitherto periodically swept them away.

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In conclusion I beg to state that I have already undertaken protective works, and that it will be my own interest to add to them as the reclamation of my estate will extend. I only pray that whatever the Government may be pleased to do it will be good enough to bear in mind in shaping its proceedings in that I have embarked a large capital in this property, and that any injudicious interference will involve me in serious loss.

From T. B. LANI, Esq., Secretary to the Board of Revenue, Lower Provinces, to the Commissioner of the Presidency Division,—(No. 595M., dated the 2nd April 1867.)

WITH reference to your letter No. 71Ct., dated the 20th ultimo, I am directed to request that you will forward to the Board a copy of your letter to Baboo Prosad Dass Dutt, No. 2Ct. of the 28th January last.

2. You are requested at the same time to report the result of the enquiry ordered in Government order No. 3407 of the 22nd December 1866, regarding the intentions of the proprietors of estates in Saugor Island towards their ryots.

3. The opinions expressed in paragraphs 3 and 4 of your letter have perhaps been advanced by you without reference to the claim of Mr. Hunter for a renewed settlement of a portion of the Island which is still pending, its consideration having only been deferred in consequence of the cyclone.

From R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division, to the Secretary to the Board of Revenue, Lower Provinces,—(No. 21, dated the 5th April 1867.)

In reply to Board's order No. 595M., dated 2nd instant, I have the honor to submit copies of the replies received by me from the gentlemen of Saugor Island, Baboo Lall Mullick and Prosad Dass Dutt and Mr. MacIntosh, together with my reply to Prosad Dass Dutt, and the Magistrate's account (No. 168, dated 28th February,) of relief actually sent to Saugor Island.

2. I was under the impression that the correspondence with Baboo Prosad Dass Dutt had accompanied my No. 71Ct. as I intended it to do.

3. I had the negotiation with Mr. Hunter fully in my mind when I wrote that letter, but I am not aware that there is any such claim upon the Government on Mr. Hunter's part as would make it necessary for them to dispose of the lands now in his occupation, otherwise than as good policy might direct.

From H. L. DAMPIER, Esq., Officiating Secretary to the Government of Bengal, to the Secretary to the Board of Revenue, Lower Provinces,—(No. 2027, dated Fort William, the 20th May 1867.)

WITH reference to your letter No. 1951B., dated the 26th ultimo, I am directed to observe that the issue of the warning to the ryots on Saugor Island, as recommended by the Officiating Commissioner of the Presidency Division and by Mr. Schaleh, might, the Lieutenant-Governor fears, damage the prospects of the clearing proprietors very materially, and it does not appear that the danger to life is sufficiently imminent to justify its adoption.

2. Before passing orders therefore on the subject, I am desired to request that the Board will be so good as to submit, for the information of Government, a full historical report on the effects of previous inundations on Saugor Island. Also, with reference to the existing grants or leases, to state how far, in their opinion, it would be possible to insist on the clearing proprietors making external embankments as a condition of holding the lots.

3. The Chief Engineer will be requested to consider whether there is any ground for Mr. Schaleh's suggestion that the damage to Calcutta from storm-waves would be materially enhanced if Saugor Island, or portions of it, were so embanked as to be secure against inundation.

No. 2028.

EXTRACT, paragraph 3, of this letter forwarded to the Secretary to the Government of Bengal, in the Public Works Department, for information and guidance.

From LIEUTENANT-COLONEL J. E. T. NICOLLS, R. E., Secretary to the Government of Bengal, in the Public Works Department, to the Officiating Secretary to the Government of Bengal,—(No. 3679I., dated the 8th June 1867.)

REFERRING to your endorsement No. 2028 of the 28th ultimo, and the extract which accompanied it, I am to inform you that, in the opinion of the Chief Engineer, no danger need be apprehended to the City of Calcutta from the embanking of Saugor Island to a sufficient height to guard against spring tides, and that a further addition of 2 or 3 feet in the height of the embankment may be safely given to protect the island against the effects of ordinary gales. But if embankments are to be made, they should be systematically and carefully carried out.

From H. L. HARRISON, Esq., Junior Secretary to the Government of Bengal, to the Secretary to the Government of Bengal, in the Public Works Department,—(No. 2588, dated Fort William, the 29th June 1867.)

WITH reference to your letter No. 3679I., dated the 8th instant, I am directed to request that you will be so good as to state, for the information of the Lieutenant-Governor, at what height the cyclone wave in 1864 rose on any part of Saugor Island, and how many feet that was above the highest ordinary spring tides, if this information is obtainable in your Office?



Office Memorandum from LIEUTENANT-COLONEL J. E. T. NICOLLS, R. E., Secretary to the Government of Bengal, in the Public Works Department, to the Officiating Secretary to the Government of Bengal,—(No. 317, dated the 16th July 1867.)

In reply to letter No 2588, dated the 29th ultimo, from the Junior Secretary to the Government of Bengal, asking to know the height of the cyclone wave of 1864 in Saugor Island, the undersigned requests a reference to the Cyclone Report published by Colonel Gastrell and Mr. H. Blanford, and to the Master Attendant, who will also be able to afford the information required.

From H. L. HARRISON, Esq., Junior Secretary to the Government of Bengal, to the Secretary to the Government of Bengal, in the Public Works Department,—(No. 2979, dated Fort William, the 27th July 1867.)

With reference to your memorandum No. 317, dated the 16th instant, I am directed to request that you will be so good as to ascertain definitely from the Chief Engineer to the Bengal Government whether, in his opinion, there would be any increased danger to the City of Calcutta from a cyclone wave, such as that of 1864, if Saugor Island were so embanked to such an extent as to protect it against a wave of that height. Your report that no danger would ensue from embanking it against spring tides does not meet the difficulty in question.

From LIEUTENANT-COLONEL F. H. RUNDALL, R. E., Joint-Secretary to the Government of Bengal, in the Public Works Department, Irrigation Branch, to the Secretary to the Government of Bengal,—(No. 2627, dated Fort William, the 6th April 1868.)

ADVERTING to your letter No. 2979 of the 27th July last, I am instructed by the Lieutenant-Governor to forward the accompanying Note by the Chief Engineer in the Irrigation Department on the protective works constructed on either bank of the river at the mouth of the Hooghly which will afford the information required in your letter under acknowledgement.

*Retract from Note on the Protective Works constructed on either bank of the river at the mouth of the Hooghly.*

PARA.—VIII.—There is, however, one more most important point for consideration, and that is, the possible effect that might be produced on Calcutta itself if the present exposed country were to be completely protected. This a point on which I feel diffident in expressing an opinion, as I am but imperfectly acquainted with the action of a cyclone-wave.

I am, however, disposed to think that the contraction of the waterway, or rather the confinement of the wave between the banks of the river, would not tend to increase the distance up which the wave would travel or the height to which it would be raised. Judging from the effects of previously recorded storms, the height of wave appears to be proportional to the force of the wind, I therefore by no means feel sure that it is an additional quantity of water that is forced in to the channel of the river, so much as the unnatural raising of the surface at the points over which the cyclone itself passes. The height of this wave is also in a measure dependent on the depth of the water at those points. Every one knows that waves generated on shallow reservoirs are much lower than on those which are deep. Also that the water is piled up by the wind on the lee shore or bank to a higher level than it is to windward. Now this action is independent of the area of the reservoir and is generated without any addition of volume, and solely with whatever quantity of water there happens to be in it, at the time. Similarly, I infer that the water on the river acted upon by the wind is raised above its ordinary level in calm, just in proportion to the force of wind passing over it, and is precipitated forward until it meets with an obstacle. That obstacle does not necessarily further raise the level of the water as it would do in the case of a storm flood draining off a country by means of a river into the sea. In that instance there is a continual accession of volume pouring down from a higher level, which will in time overtop any opposing obstacle, and continue to do so until the whole quantity has run off. In the case of the cyclone I believe the wave would be as great if not greater at the ebb than at the flood-tide, as happens ordinarily when the southerly winds are blowing strong up the Hooghly. Of course if the cyclone occurs at flood-tide, there will be the accession of whatever quantity is due to the rise of tide, but the highest tides often occur without the presence of any wind at all. During the southerly winds I believe the level of the sea in the whole of the upper part of the Bay of Bengal is permanently at a higher level; but I do not think a cyclone would raise the level of the Bay itself, however high it might raise the wave immediately in its path, and it must be borne in mind that the level of the Bay at the time of the cyclone of October 1864 must have been low, as the south-west monsoon had ceased blowing for some weeks.

In the cyclone of last November no additional quantity of water appears to have entered the Hooghly, or the tide to have been more than ordinarily high, and yet to the eastward of Calcutta the cyclone passed over the Bay, and if it had any effect in raising the level of the Bay, more than locally, the result must have been felt in the Hooghly.

I therefore draw the conclusion that the elevation of that wave does not necessarily imply a corresponding accession of volume, which, if opposed, as in the case of a descending rain flood, must necessarily be raised higher by the obstacle it meets, or because its path is confined.

Hence I have no apprehension that any greater effect would be felt at Calcutta after the complete embanking of the Hooghly against a cyclone-wave, than was felt before in 1864.

As said before, I put forth these opinions diffidently merely as the result of my own reflections on the subject, and not with any pretension to their being correct conclusions or explanations of the action of a cyclone-wave.

F. H. RUNDALL, Lieut.-Col., R. E.,  
Chief Engr. to the Govt. of Bengal,  
Irrigation Department.

The 26th February 1868.

From T. B. LANE, Esq., Officiating Secretary to the Board of Revenue, Lower Provinces,  
to the Officiating Secretary to the Government of Bengal,—(No. 1971B), dated Fort  
William, the 16th April 1868.)

WITH reference to Government Order No. 2027, dated  
the 20th May 1867, I am directed

\* No. 103Ct., dated 28th December last, with enclosures.

to submit a report\* from the  
Commissioner of the Presidency

Division, on the inundations of Saugor Island during past years. The  
Commissioner has further stated his views regarding the proper measures  
to be taken for the future protection of the Island and its inhabitants.

2. From the first thirteen paragraphs of this report, founded on the  
best information which could be obtained, the inundations of 1833 and  
1864, appear to have been most disastrous in their effects, both to property  
and life. The Cyclone of 1867 is stated to have caused a loss of five lives  
and much injury to the crops. Mr. Chapman, therefore, after discussing the  
rights of the present occupiers and claimants to ownership of the Island,  
has recommended that its future tenancy should be permitted only on certain  
conditions providing for full protection from further inundations;

3. The position of the occupiers of the Island came under the  
consideration of the Board in 1864, when Mr. Dampier, then Assistant-Secretary  
of the Presidency Division, made certain proposals for its permanent settle-  
ment. These had not been disposed of when the Cyclone of November  
1864 occurred, and the condition of the Island was then so seriously  
changed that the Board determined for the time to defer its settlement.  
It has therefore remained in the hands of the existing occupiers, revenue-  
free, up to the present date.

4. The inhabitants suffered severely in the Famine of 1866, and in  
reporting the measures necessary for the relief of the sufferers, Mr. Chap-  
man, the present Commissioner of the Presidency Division, had, as already  
reported, proposed that Government should no longer allow the Island to  
be cultivated, unless the proprietors consent to construct works sufficient  
for protection against the often recurring and destructive inundations.  
In his present report he has expressed his full concurrence in the opinions  
expressed by his predecessor in the report of the 16th January 1864, arriving  
at the conclusion therein drawn that none of the claimants have any legal  
right to the Island, the proprietorship of which may be disposed of entirely  
at the pleasure of Government.

5. On referring to the records connected with the renewal of the  
revenue-free grants from 1851 to 1863, it appeared to the Board that the  
report on which Mr. Chapman based his opinion did not sufficiently dwell  
upon the position of those grantees in whose favor the renewal was sanc-  
tioned. In the Despatch from the late Court of Directors, No. 7 of 1850,  
forwarded with Government Order No. 28 of 7th January 1851, the  
Memorialists to the Court for the renewal of the original grant were  
described as *owners and occupiers of Saugor Island*. The Board having been  
desired to consider whether the prayer should be conceded, recommended,  
and the Government approved of, a renewal of the grant, revenue-free, for  
thirty years from the year of the Great Cyclone in 1833.

6. Mr. Dampier, in proposing arrangements for the settlement of the  
Island, consequent on the expiry of the grant in 1863, submitted a full  
history of the Saugor Island Society, in virtue of whose rights the Memo-  
rialists of 1850-51 had obtained the renewed grant. He pointed out that  
the various conditions of the Society's Deed had been altogether unfulfilled,

the present occupiers and claimants had been in consequence of a right to represent the original grantees. At the same time, treating them as occupants who had spent much money and labor on lands, and were therefore entitled to the consideration of Government, he proposed a permanent settlement with them on certain specified terms.

7. The proper position occupied by the Memorialists of 1850-51 had evidently not been sufficiently borne in mind, and the Commissioner of the Soonderbuns was therefore asked, on the 17th January last, to report the names of those who obtained the renewed grant, and the precise effect of the orders of Government in their favor. His reply of the 9th March last, seemed to shew, that the "owners and occupiers" of 1850-51, had simply entered on the rights and position of the Saugor Island's Society, no fresh Deed of any kind being drawn out, and no requisition being made on them to shew that, by the prescribed process for mutation of names, they were the legal representatives of the original grantees. This reply was then sent to Mr. Chapman, that he might make any modification seeming advisable to him, in his proposals with regard to the future management of the Island. In his answer of the 30th March last, he has simply repeated his opinion that the present occupants have no rights, and that Government can impose on them any conditions that it pleases.

8. This view of the position of the existing grantees, or occupants, appears to the Board to be unfair and unfounded. The proper time to look into their titles, as affected by any breach of the conditions of the original Deed, was surely in 1851, when they applied for the renewal of the grant. Such enquiry was not, however, then deemed necessary; they were then distinctly recognised as the representatives of the original Society, and they obtained by precise Government Orders, though not by formal Deed, a renewed grant in their favor up to 1863. It follows necessarily that in 1863, the Memorialists, as they might be then represented, were entitled to a settlement on the terms of the Deed, which may be briefly described as entitling them to the settlement of the cultivated portion of the Island at (4) four annas a beegah, the grant of the remaining and uncultivated lands being cancelled. Under the Deed no conditions for the construction of embankments or protective works of any kind, as suggested by Mr. Chapman, could be added in such a settlement, and the existing proprietors are still now, as they were in 1863, entitled to a simple unfettered settlement of the cultivated lands at (4) four annas a beegah.

9. So far as the uncultivated lands formerly granted to the Society are concerned, the Board recommend that no occupation of them be permitted in future, save under conditions by which the safety of the settlers the ocean may be amply secured.

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From R. B. CHAPMAN, Esq., Officiating Commissioner of the Presidency Division, to the Secretary to the Board of Revenue, Lower Provinces,—(No. 103Ct., dated Jessore, the 28th December 1867.)

I HAVE the honor to acknowledge the Board's Order No. 2859B., dated 4th June 1867, which gives cover to Government Order No. 2027, dated 20th May 1867.

2. The Government ask for a full historical report on the effects of previous inundations on Saugor Island, and as the history of the Island itself goes back only to 1811, it might have been supposed that it would not have been very difficult to obtain the necessary materials.

3. It is a curious comment upon the state of our public records that I have, I regret to say, nevertheless failed to do so. I have sought for the information in every direction. The offices of the Commissioner in the Soonderbuns and of the Magistrate and Collector of the 24-Pergunnahs on the one side, and of the Board of Revenue, the Marine Department, the Surveyor-General, and the Government of Bengal, on the other, have, at my request, been ransacked but in vain; and even the Asiatic Society journals appear to contain no record even of such a catastrophe as the Gale of 1838.



4. This is the more tantalizing as the Commissioner in the Soonderbush only person who has been able to give me any information at all, ascertained that Mr. W. Dampier was employed for the relief of the sufferers by the Cyclone of that he made full reports to the Government. The clue, however, proved unavailing reports cannot be found.

5. Under these circumstances, while I have spared no pains to find the means of presenting the historical sketch for which I am asked, I am, as a public officer, vexed and ashamed to say that it must be exceedingly meagre. At the same time I hope that it may be sufficient for the purpose in hand.

6. I have said that the history of the Island dates from 1811. In that year the attention of the Government was first, so far as is now known, directed to a project for its cultivation, probably with a view to the provision of some refuge for the crews of ships wrecked on or near its shores. In fact, however, the Island does not appear to have been colonized until after 1819, in which year the Saugor Island Society was formed by Mr. Trower, Collector of the 24-Pergunnahs, partially as it appears at the instigation of Government, which granted for the encouragement of the Society very favorable terms.

7. Of the early proceedings of the Society I can find no record; but by 1833 there were it appears about 7,000 inhabitants on the Island.

8. Tradition still surviving locally is my only authority for stating what is, I believe, however the fact; that of the six Cyclones that have swept over the Island since it was colonized, two only, those of 1833 and 1864, were to any great extent destructive to human and animal, and exceedingly disastrous in their effects. But the two of 1833 and 1864 were so terrible that, in my deliberate opinion, they fully justify the Government in having commenced this correspondence and demand from the Government for consideration as to the terms upon which they will sanction any continuance of the project to reclaim the Island.

9. Of the earlier of these two catastrophies, the Cyclone of 1833, I have been able, as I have said, to find no official record, but the following passages extracted from Doctor (now Sir James) Ranald Martin's "Notes on the Medical Topography of Calcutta," a Work published in 1836, described its effects sufficiently, I think, for the purpose in hand. I am indebted to Mr. D'Gomes for the book.

"The tide which ran for seven hours rose to a height of 12 feet above its ordinary level, destroying embankments and buildings of every kind, while the storm levelled the trees; nothing stood within the influence of tide and wind, and the loss of human life and destruction of cattle must have been enormous.\*" Saugor Island was covered seven feet deep, and out of a population of 7,000 persons few escaped.

"This Saugor scheme cost, from first to last, in human life, including all who died in the clearing operations, and the six thousand odd who perished in the inundation of 1833, more or less seven thousand souls."

"It cost in money—

	Rs.
Government preparations for a Light-house .. ..	60,000
Expended by the Saugor Island Society .. ..	3,29,000
Expended by the Lessees .. ..	5,81,000
Total, Sicca Rupees .. ..	9,70,000*

"Any comment on the above summary would only destroy the impression, all I hope that we may be more successful in our next attempt."

I agree with the writer that, in the face of such facts, comment is quite superfluous.

10. The havoc caused by the more recent visitation of 1864 is thus described by Mr. Dampier in his address to the Board, No. 365, dated 18th November 1864.

"The Cyclone has made a clean sweep of the Island, 1,488 people are left alive out of 5,625, and of these 802 only are men; 7,022 head of cattle and 3,365 horses are gone. I annex a statement giving details. The only signs of activity and life now to be seen on the Island are the hungry wretches thronging the Relief Committees' depôts and baling out the salt water from their tanks." I adopt again Doctor Martin's language, and can only say comment is superfluous.

11. It thus appears that in a period of 31 years the Island had failed to regain the population of 1833, and that the bulk of those who had gradually settled there, shared the dreadful fate of their predecessors.

12. I have just caused a fresh enquiry into the state of the Island to be made, in order to ascertain how far it had recovered from the effects of the Cyclone of 1864, and what it had suffered from the Cyclone of 1867. We find that there are now only 204 huts (they were all levelled to the ground by this year's storm) and 782 inhabitants. That the cultivation has decreased from nearly 25,000 beegahs in 1862-63 to only 2,750 beegahs now, and that of the 47 miles of embankment 8½ have been absolutely destroyed; 14½ require extensive repairs, and 12 need slight repairs only.

13. Five lives only were lost by this year's storm. But the crops are very sadly injured.

annex a tabular statement of the details for each chuel. It will be seen that and B. munkhalee have been apparently wholly abandoned, and that Ferintosh, and, and Shikarpore are probably about to follow suit. The only grant which shows vitality is that of Dholelat or Gunga Saugor, whose worthy proprietor, Prosad Moss Dutt, has now again stepped forward with such liberality to the assistance of his people, that they positively declined the relief offered to them by the Agent of the Relief Committee the other day. Possibly the fact that on this grant is placed the famous Gunga Saugor may in some way, not known to us, repay the proprietor or make it worth his while to keep up the grant. Otherwise, as an agricultural speculation, it is difficult indeed to see how it can pay.

15. In order to place the question which will, I hope, be considered upon this report before the Board in as complete a shape as possible, I annex to it a copy of Mr. Gomess' fiscal history of the Island as contained in his No. 161, dated 24th December 1863. This document which was laid before the Board by Mr. Dampier with his No. 533, dated 16th January, shews the actual title asserted by each of the claimants to the Island now. I entirely agree with Mr. Dampier that in law not one of the claimants can make out any shadow of a title at all, and that the only plea they can advance is to the consideration that may be due to them on account of their labour and money expended, and the disappointments met with in their attempts to reclaim the Island.

These considerations ought not, I respectfully submit, to be allowed to prevent the Government from them of such conditions, as the terrible waste of human life incurred in their fruitless attempts to reclaim the Island, may seem to the Government,

and it is my duty to make known its intention in regard to the Island, and in the opinion of the Board the measures that I would advise for adoption.

18. Before doing so, I wish to state whether, in fact, the reclamation of Saugor Island is so desirable, in the interests of those who navigate the Hooghly, as to make any reckless expenditure of life or property for the purpose expedient. I confess that I doubt it. I do not, indeed, doubt that it would be an advantage were the shores of Saugor Island cultivated down to the sea, but it would be an advantage that would only occasionally come into use, and not of such magnitude as to be worth purchasing at any extraordinary price. The whole condition of the navigation of the Hooghly is changed since the project of reclaiming Saugor Island was first taken up. Steamers having so reduced its dangers as to make shipwreck on Saugor Island a very rare contingency.

19. I have no doubt whatever that the expenditure of life and property on the reclamation of the Island hitherto has been out of all proportion to the advantage to the navigation that would have accrued, even had it resulted in the reclamation of the entire Island; and it is plain to common sense that, except in the case of the Gunga Saugor clearing, the cultivation hitherto effected being all on the upper and eastern shores of the Island can have added little indeed to the chances of saving mariners shipwrecked in or near the Hooghly.

20. In considering this part of the subject, it is necessary to bear in mind that some think (whether rightly or wrongly, the scientific officers of the Government will be able to say better than I can,) that Saugor Island is more valuable in forest as a break-water to save the main land from the full destructive force of storm waves than as a precarious field for agriculture.

21. To turn now to the fiscal aspect of the question. The Board will remember that in his letter No. 533, dated 1st January 1864, already quoted, Mr. Dampier proposed the settlement of the cultivated portions of the Island with the actual claimants on very moderate and liberal terms, but which would yet have produced a not absolutely insignificant revenue; also that the claimants one and all vehemently protested against the proposal and vowed that the land could pay nothing at all, or, at the utmost, not half what Mr. Dampier proposed.

22. It is certain that the Island has produced no revenue to the State yet. It is, I fear, equally certain that, on the whole, the operations carried on upon it have been financially disastrous to those engaged in them. I have no doubt that, for the present, we must abandon all thought of making any revenue from it.

23. My own opinion in regard as well to Saugor Island as to the more favorably situated Soonderbuns, is that it is a wasteful and extravagant policy to attempt the reclamation of such reserves of land at a ruinous cost before their time. For the present, except upon a moderate scale, or carried on under very specially favorable circumstances, I do not believe that the reclamation of such lands pays: they are not, in fact, ordinarily to be reclaimed with any security or solidity except by a vast outlay upon extensive protective works. The time will no doubt come when the necessities of an increasing population, or an improved price for agricultural produce, will lead legitimately to the profitable reclamation even of such lands as Saugor Island or the Soonderbuns; but it is not come yet, and I never can understand why we should fret and fume and charge ourselves with want of enterprize because we cannot break through the natural laws which govern, or ought to govern, all successions, and which cannot be transgressed with impunity.

Statement shewing the condition of Saugor Island in 1862-63, its condition before the Cyclone of 1st November 1867

1	2	3	4		5	6	7	8	9	10	11	REMARKS					
Names of Chucks.	Number of huts according to measurement papers of 1862-63.	Number of huts which existed immediately before the Cyclone of 1st November 1867, so far as could be ascertained by enquiry made in November 1867.	DIFFERENCE BETWEEN COLUMNS 2 AND 3.		Number of resident ryots in 1862-63 ascertained by allowing 5 souls to each hut shown in Column 3.	Number of resident ryots now on the Island ascertained from enquiry conducted on the spot in November 1867.	DIFFERENCE BETWEEN COLUMNS 5 AND 6.		CONDITION OF THE EMBANKMENTS AFTER THE CYCLONE OF 1st NOVEMBER 1867.			Extent of land under paddy cultivation in 1862-63.	Approximate extent of land under paddy cultivation in 1867.	Bgs.	Bgs.	Bgs.	Extent of land under paddy cultivation in 1862-63.
			Increase.	Decrease.			Increase.	Decrease.	Approximate total length of outer embankments in miles.	Approximate extent of embankments entirely destroyed in miles.	Approximate extent of embankments requiring considerable repairs in miles.						
Mud Point or Ghoramara.	267	....	....	267	1,335	....	....	13½	7½	1½	4	9,019	....	....	....	....	1842-63.
Ferintosh or Morigunga.	359	55	....	304	1,795	....	....	12½	....	3½	3½	8,804	650	....	....	....	1842-63.
Bamunkhalee	21	....	....	21	105	....	....	5½	....	4	....	302	....	....	....	....	1842-63.
Trower land or Company's Chur.	125	32	....	93	725	....	....	5½	....	1½	2½	3,052	350	....	....	....	1842-63.
Shikarpore	110	37	....	73	550	....	....	5½	1	2½	....	1,936	450	....	....	....	1842-63.
Dhobelat or Gunga Saugor.	57	80	23	....	285	....	....	4½	....	1½	1½	1,816	1,300	....	....	....	1842-63.
Total ..	989	204	23	758	4,795*	78½	....	47	8½	14½	12	24,929	2,750	....	....	....	1842-63.

\* These figures differ from those given by Mr. Dampier as quoted in the text, but they are probably more correct.

COMMISSIONER'S OFFICE;

PRESIDENCY DIVISION, JESSORE,

The 28th December 1867.

R. B. CHAPMAN,

Offg. Commissioner.



From J. L. DAME R, Esq., Officiating Secretary to the Government of  
Officiating Secretary to the Board of Revenue, Lower Provinces,—  
Fort William, the 26th May 1868.)

I AM directed to acknowledge the receipt of your letter

\* No. 103Ct., dated 28th December 1867.

dated 16th ultimo, and enclosures

report\* from the Officiating Commis-

Presidency Division on the past inundations of Saugor Island, and  
measures which should be taken for the future protection of the  
its inhabitants.

2. In reply I am to say that the Lieutenant-Governor con-  
opinion expressed by the Board in the 8th paragraph of their letter  
approves of the cultivated lands being settled at (4) four annas  
perpetuity with the parties now in possession. His Honor, however, will  
no objection to the present occupiers continuing in possession of  
tive grants rent-free for ever, if they will provide and undertake  
places of refuge and reserves for fresh water, as described in para-  
binding themselves to the condition suggested in paragraphs 26 and 27 of  
Mr. Chapman's abovementioned letter. I am to request that the  
be so good as to make them the offer reporting the result for the information  
of the Lieutenant-Governor.

3. Any application which may be made in future for grants of  
uncultivated tracts should be submitted for the orders of Government  
specification of the protective works which the applicant is prepa-  
struct before he attracts population to the Island.

# Report on the Cultivation of Cinchona at Darjeeling during the month of March 1868.

W. H. H. Esq., M. D., Superintendent, Botanical Gardens, and in charge of the Cultivation in Bengal, to the Junior Secretary to the Government of Bengal,—  
(Botanical Gardens, the 20th May 1868.)

I have the honor to forward the Report on the cultivation of Cinchona during the month of March 1868.

## Cultivation of Cinchona at Darjeeling during the month of March 1868.

The work performed during the month consisted of burning the jungle on the land reserved for the extension of the plantation and the making of the sites and preparation of the soil for the planting of *C. Officinalis* and *C. Succirubra*. The large nursery beds for *C. Officinalis* were weeded, and the soil about the plants stirred up. The seedlings of this species at the Ryeng were hoed over the greater part of its extent. The attempt to admit of planting in the open air being attempted, but 30,000 plants of *C. Calisaya* were planted in nursery beds, 31,450 cuttings were added to the month, and 150 well established seedlings of *C. Calisaya* were added to the month. By the end of the month the total number of plants in the various plantations exceeded a million and a half. The weather during the month was exceedingly fine, and 1.3 inches of rain having fallen at 5,000 feet above the sea; still the growth has been considerable, probably from the greatly increased power of the sun.

The seedlings of *C. Succirubra* were supplied to the Deputy Commissioner of Hazarah in the month of March.

## Table showing the temperature of the month at the different plantations.

	Mean Maximum.	Mean Minimum.	Mean Temperature.	REMARKS.
Station 1.	60.8	47.27	54.05	
Station 2.	67.7	50.24	59.39	
Station 3.	76.79	47.38	62.09	

## Table showing the maximum and minimum growth during the month of March 1868.

NAMES OF SPECIES.	TEESTA.		RISHAP.	RUNGBEE.	
	First Plantation.	Second Plantation.	Third Plantation.	Fourth Plantation.	Fifth Plantation.
<i>C. Succirubra</i> ..	$\frac{1}{2}$ to $1\frac{1}{2}$ inches	$\frac{1}{2}$ to 3 inches.	1 to $4\frac{1}{2}$ inches.	$\frac{3}{4}$ to $3\frac{1}{2}$ inches	$\frac{1}{2}$ to 4 inches.
<i>C. Microcartha</i> ..	$\frac{1}{2}$ to 3 " ..	$1\frac{1}{2}$ " ..	$\frac{1}{2}$ to $2\frac{1}{2}$ " ..	$\frac{1}{2}$ " ..	1 to $3\frac{1}{2}$ " ..
<i>C. Officinalis</i> ..	Not measured	Not measured	Not measured.	$\frac{3}{4}$ to $3\frac{1}{2}$ " ..	Not measured.
<i>C. Calisaya</i> ..	Ditto ..	Ditto ..	$1\frac{1}{2}$ to 4 inches.	$\frac{1}{2}$ to 2 " ..	$\frac{1}{2}$ to $\frac{1}{2}$ an inch.

## Number and distribution of Cinchona Plants in the Government Plantations at Darjeeling on the 1st April 1868.

NAMES OF SPECIES OF CINCHONA.	Number in permanent plantations.	Number of stock plants for propagation.	Number of seedlings or rooted cuttings in nursery beds for permanent plantations.	Number of rooted plants in cutting beds.	Number of cuttings made during the month.	Total number of plants, cuttings, and seedlings.
<i>C. Succirubra</i> ..	2,72,923	20,000	2,51,585	1,88,849	29,000	7,62,357
<i>C. Calisaya</i> ..	220	4,158	160	*6,366	1,450	12,354
<i>C. Microcartha</i> ..	5,558	1,000	8,220	15,889	None.	30,667
<i>C. Officinalis</i> and varieties ..	1,45,399	10,000	2,58,856	3,33,153	1,000	7,48,403
<i>C. Panchiana</i> ..	5,092	None.	None.	None.	None.	5,092
Totals ..	4,29,102	35,158	5,18,821	5,44,257	31,450	15,58,878

\* 150 seedlings have been added.

J. GAMMIE,  
Head Gardener in Charge.

TABLE shewing the growth of Cinchona in the Dojeling Plantations during the month of March 1868.

NAMES.	Numbers.	1st PLANTATION, (TESTA) ALTITUDE.					2nd PLANTATION, (TESTA) ALTITUDE.					3rd PLANTATION, (RISHAP) ALTITUDE 2,000 FEET.					4th PLANTATION, (HUNGREE) ALTITUDE 3,332 FEET.					5th PLANTATION, (HUNGREE) ALTITUDE 2,656 FEET.				
		Date of planting 1866.	Height in inches on 31st March 1866.	Height on 1st March.	Height on 1st April.	Growth during March.	Date of planting 1866.	Height in inches on 31st March 1866.	Height on 1st March.	Height on 1st April.	Growth during March.	Date of planting 1867.	Height in inches on 1st January 1868.	Height on 1st March.	Height on 1st April.	Growth during March.	Date of planting 1864.	Height in inches when planted.	Height on 1st March.	Height on 1st April.	Growth during March.	Date of planting 1864.	Height in inches when planted.	Height on 1st March.	Height on 1st April.	Growth during March.
C. Succirubra	1	18th Nov...	96	96	96	1	18th Nov...	96	96	96	1	29th July...	29	31	33	2	29th July...	5	45	45	0	15th Oct...	6	170	170	0
Ditto	2	18th "	65	65	65	1	18th "	65	65	65	1	29th "	30	33	36	3	29th "	6	44	47	3	15th "	10	91	92	1
Ditto	3	18th "	60	60	60	1	18th "	60	60	60	1	29th "	37	39	42	3	29th "	7	43	46	3	15th "	3	86	88	2
Ditto	4	18th "	55	55	55	1	18th "	55	55	55	1	29th "	24	28	32	4	29th "	10	41	45	4	29th "	3	86	88	2
Ditto	5	18th "	54	54	54	1	18th "	54	54	54	1	29th "	24	28	32	4	29th "	10	41	45	4	29th "	3	86	88	2
Ditto	6	18th "	76	76	76	0	18th "	76	76	76	0	29th "	37	41	45	4	29th "	4	33	37	4	29th "	3	85	86	1
Ditto	7	18th "	68	68	68	0	18th "	68	68	68	0	29th "	30	35	39	4	29th "	4	33	37	4	29th "	3	85	86	1
Ditto	8	18th "	77	77	77	0	18th "	77	77	77	0	29th "	27	32	37	5	29th "	3	33	38	5	29th "	3	85	86	1
Ditto	9	18th "	66	66	66	0	18th "	66	66	66	0	29th "	27	32	37	5	29th "	3	33	38	5	29th "	3	85	86	1
Ditto	10	18th "	93	93	93	0	18th "	93	93	93	0	29th "	30	32	34	2	29th "	3	43	45	2	29th "	4	70	73	3
C. Micrantha	1	18th "	54	54	54	0	18th "	54	54	54	0	29th "	25	29	34	4	29th "	3	43	48	5	29th "	3	89	94	5
Ditto	2	18th "	51	51	51	0	18th "	51	51	51	0	29th "	17	20	23	3	29th "	9	57	60	3	29th "	6	36	39	3
Ditto	3	18th "	72	72	72	0	18th "	72	72	72	0	29th "	19	22	25	3	29th "	6	40	43	3	29th "	6	32	35	3
Ditto	4	18th "	77	77	77	0	18th "	77	77	77	0	29th "	44	46	48	2	29th "	3	37	39	2	29th "	6	84	86	2
Ditto	5	18th "	94	94	94	0	18th "	94	94	94	0	29th "	46	50	54	4	29th "	3	57	61	4	29th "	4	48	52	4
C. Officinalis	1	18th "	81	81	81	0	18th "	81	81	81	0	29th "	55	60	65	5	29th "	3	45	50	5	29th "	4	64	69	5
Ditto	2	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	3	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	4	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	5	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	6	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	7	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	8	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	9	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	10	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
C. Calisaya	1	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	2	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	3	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	4	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	5	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	6	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	7	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	8	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	9	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...
Ditto	10	18th "	...	...	...	...	18th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...	29th "	...	...	...	...



24. Were Saugor Island then completely reclaimed and entirely free, I should not hesitate to recommend, as the fruit of dearly bought experience of years, that all active efforts for its cultivation be, so far as Government is concerned, up. I would not absolutely forbid private enterprise upon it, but I would discourage it by any special advantages, and I would make no grants of land upon the except upon conditions of the provision by the grantee of works sufficient for the preservation of the population from being swept away as they have twice been.

25. And, in fact, this is what I certainly do now propose to the Board in respect of all the Island except the comparatively trifling area that is now in cultivation. What the protective works should be, I would leave to the professional department finally to say. After much consideration I do not think that the Government need trouble itself about any thing but human life. For this purpose we need probably not insist upon any very extensive or costly works. In each village I would suggest the excavation of one small tank entirely surrounded by an embankment so high and so strong as to be proof against all storm waves. What breadth and height of embankment should be insisted upon with this object the Public Works Department would no doubt be able to say. The inner slopes of the embankment should be terraced, so as to provide a place of refuge for the inhabitants, and perhaps the southern outer face should be armed with masonry.

26. It should be an absolute condition of the grant that this place of refuge be kept at all times in perfect repair, and perfectly accessible from the village. The Government should reserve full power at any time to undertake any works that it might think for the repair and maintenance of the work, the cost and a heavy penalty upon the grant for neglect being made recoverable by summary sale of the grant. No habitations should be allowed to be erected beyond a fixed distance from the work or in any place not accessible from it. This condition should be enforceable by the immediate destruction of any house built contrary to it at the entire risk of the owner of the grant and by the imposition upon him of a penalty leviable as above.

27. Subject to some such conditions as are detailed in the preceding paragraph, I would lease or sell grants upon Saugor Island upon the same terms as in the Soonderbuns Proper.

28. I have spoken hitherto only of that large proportion of the Island which is at the present moment uncultivated. It is not quite so easy to know what to propose in regard to the 2,750 beegahs of land under cultivation. But I think it will be sufficiently, and not too liberal, if the offer be made to the proprietors to grant this area to them rent-free for ever, upon their undertaking to provide places of refuge as above described, and to enter into engagements for their maintenance by the Government in the manner above proposed. I would allow one year for the preparation of the works; and if within that time they be not prepared, and the engagements not signed, I would thenceforth tax the cultivation as annually found, at the rate of 6 annas a beegah, recovering under Act X. of 1859 or by distraint as might seem expedient, from the actual cultivators.

29. Should any of the claimants who may engage for the protective works desire it, I would grant them as much land from the waste as they have now under cultivation rent-free with their cultivated lands, they to erect substantial boundary marks round the whole which must be in one ring fence.

of the Meteorological Observations taken at the Surveyor-General's  
Office, Calcutta, from 15th to 21st June 1868.

			perature.	Mean Temperature for the day.	Mean Wet Bulb.	Computed Mean Dew-point.	Mean Degree of humidity for the day.	Prevailing Direction of Wind during the day.	Rain.	Max: Pressure of Wind.	Daily Velocity of wind.	GENERAL REMARKS.
			°	°	°	°			Inches.	lb	Miles.	
			45	80.7	78.0	76.1	0.96	S S W	0.27	4.6	431.9	Overcast. High wind from 6½ A. M. to 11 P. M. Rain at 4, 7 and 8½ A. M. and at 10 P. M.
			50	79.7	78.1	77.0	.92	SW, SSW & WSW	0.53	4.0	400.8	Overcast. Brisk wind from midnight to 4½ A. M. Light rain from midnight to 8 A. M. and at 3, 10 and 11 P. M.
502	85.0	78.0	7.0	81.3	79.2	77.7	.89	S, S W & S S W	1.46	1.8	342.4	Overcast nearly the whole day. Brisk wind at 11 A. M. and from 2 to 3 P. M. Rain from midnight to 9½ and at 9½ P. M.
533	87.0	78.0	9.0	82.2	79.0	76.8	.84	S W & W S W	1.09	1.5	263.2	Overcast. Brisk wind from 10½ A. M. to 8 P. M. Rain 2, 4½ and 9½ A. M. and from 4½ to 11 P. M.
516	85.5	78.4	7.1	82.2	79.4	77.4	.86	S W & S	0.11	2.3	317.1	Overcast. Brisk wind from 2½ to 8 A. M. Light rain from midnight to 2 A. M.
585	92.5	82.0	10.5	86.8	81.7	78.6	.77	SSW, SW & S by W	...	...	175.6	Clear and thin cirri.
590	93.3	82.0	11.3	87.7	82.0	78.6	.75	S W & S S W	0.11	2.5	132.2	Clear and thin citri. Brisk wind at 8½ P. M. Lightning to W at 8 P. M. Light rain at 9 P. M.

1 Temperature and the mean Wet Bulb are derived from the twenty-four hourly made during the day.

point is computed with the Greenwich constants. The figures in column ten represent the air, the complete saturation of which being taken at unity. The receiver of the lower 1 foot .2 inches, and that of the Anemometer 70 feet 10 inches, above the level of the velocity of wind, as indicated by Robinson's Anemometer, is registered from noon to

me variation of Temperature during the past seven days	...	...	15.7
Temperature during the past seven days	...	...	93.3
Temperature during the corresponding period of the past year	...	...	91.2
humidity during the past seven days	...	...	0.84
humidity during the corresponding period of the past year	...	...	0.86
			Inches.
fall of rain from 15th to 21st...	{ by lower rain gauge	...	3.57
	{ by Anemometer gauge	...	2.96
ditt average of fourteen previous years	...	...	3.42
ditt between the 1st January, and the 21st current	...	...	36.43
ditto ditto average of 14 years...	...	...	18.80

17th June, page 407, 11th June in Max Pressure of wind column for 4.1 feet read 4.7 feet.

GOPEENAUTH SEN,  
In charge of the Observatory.



## Meteorological Report up to 7th June 1868.

STATIONS.	June.	Hour.	Barometer reduced to 32°	THERMOMETER.		Humidity Sat. = 100.	WIND.		
				Dry.	Wet.		Direction.	Velocity.	
CALCUTTA.									
			Inches.	⊖	⊖				
	1st	10	29.795	88	82	76	S S E	...	
		16	29.677	93	83	64	S by W	...	
	2nd	10	29.788	89	81	69	S S E	...	
		16	29.655	95	82	55	S S W	...	
	3rd	10	29.772	89	82	73	S	...	
		16	29.630	95	82	55	S S W	...	
	4th	10	29.776	89	81	69	S	...	
		16	29.621	95	82	55	S E	...	
	5th	10	29.755	91	82	66	E S E	...	
		16	29.642	88	81	72	S E	...	
	6th	10	29.705	78	77	95	S S E	...	
		16	29.623	79	77	90	S E	...	
	7th	10	29.632	78	78	100	S E	...	
		16	29.551	78	77	95	S E	...	
SAUGOR ISLAND.									
	1st	9-30	29.609	87	82	79	S E	Moderate ...	0.40 Cloudy.
		16	29.631	89	82	73	S	Moderate ...	Ditto.
	2nd	9-30	29.694	89	83	76	S	Light ...	Scattered clou
		16	29.616	91	83	70	S	Moderate ...	Ditto.
	3rd	9-30	29.684	89	82	73	S	Light ...	Ditto.
		16	29.576	91	83	70	S	Light ...	Ditto.
	4th	9-30	29.701	89	82	73	S	Light ...	Ditto.
		16	29.575	91	85	77	S E	Light ...	Cloudy, a slig
	5th	9-30	29.673	86	83	87	S E	Strong ...	of rain th
									measurabl
		16	29.560	90	83	73	S E	Strong ...	Cloudy.
	6th	9-30	29.593	80	79	95	E	Light ...	Sky overcast
		16	29.516	79	78	95	E	Light ...	Ditto.
	7th	9-30	29.525	83	80	87	S	Violent ...	Ditto.
		16	29.479	82	80	91	S	Violent ...	Ditto.
CHITTAGONG.									
	1st	9-30	29.689	83	79	83	S by E	Light ...	Cirrocumulus
		16	29.576	86	81	79	S S W	Light ...	Horizon clou
	2nd	9-30	29.658	85	82	87	S W	Light ...	S. E., S, a
		16	29.555	87	82	79	S W	Light ...	Cumulus.
	3rd	9-30	29.643	85	82	87	W N W	Light ...	Heavy clou
		16	29.586	88	83	80	S S W	Light ...	wards N.
	4th	9-30	29.655	87	82	79	N	Light ...	Cumulus.
		16	29.517	89	84	80	W S W	Light ...	Horizon, cl
	5th	9-30	29.660	80	81	79	S E	Light ...	E. E. and
		16	29.502	84	78	75	N E	Light ...	Cloudy hori
	6th	9-30	29.581	85	80	79	S	Light ...	Stratus a
		16	29.537	84	80	83	N E	Light ...	strong wi
	7th	9-30	29.599	81	79	91	N E	Light ...	14-20 ch
		16	29.524	82	78	82	E	Light ...	14-50 ti
									shower f
		9-30	29.581	85	80	79	S	Light ...	Cloudy.
		16	29.537	84	80	83	N E	Light ...	Changing;
									moving to
	7th	9-30	29.599	81	79	91	N E	Light ...	Nimbus.
		16	29.524	82	78	82	E	Light ...	Nimbus cum
									wet day, s
									urable.
AKYAB.									
	1st	9-30	29.796	86	80	75	S E	Light.	Cumuli to
		16	29.762	88	81	72	W	Light	Fair.
	2nd	9-30	29.777	86	81	79	E	Light	Cirrostrati
		16	29.730	89	83	76	S W	Light	Cumulonou
	3rd	9-30	29.762	88	82	76	S W	Light	Cumuli to
		16	29.702	89	82	69	W	Light	Scattered c
	4th	9-30	29.716	90	82	69	W	Light	Cumuli to
		16	29.774	87	81	76	N E	Light	Cumuli to
	5th	9-30	29.736	90	83	73	W	Light	Cirrostrati
		16	29.769	89	82	73	E S E	Light	E. to
		16	29.733	88	81	72	S W	Light	Fair.
	6th	9-30	29.729	89	82	73	S E	Light	Fine.
		16	29.727	86	81	79	S S E	Mod	
	7th	9-30	29.750	81	80	95	S E	Mod	
		16	29.738	82	80	91	S S E	Mod	
CUTTACK.									
	1st	9-30	29.834	83	78	78	N E	Light	
		16	29.718	80	81	69	S W	Light	
	2nd	9-30	29.806	89	82	73	S by E	Light	
		16	29.739	83	78	78	S E by S	Light	
	3rd	9-30	29.804	86	82	83	S E	Light	
		16	29.710	83	79	83	E	Light	



	Barometer re- duced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain Inches.	WEATHER.
		Dry.	Wet.		Direction.	Velocity.		
		☉	☉					
		86	80	75	E	Light	...	Covered with cumuli since morning.
		80	76	82	E by N	Light	1.20	Distant thunder in S. at 12-30 heavy rain very severe; lightning & thunder at 13-35 lasted 25 minutes, drizzled with occasional thunder and lightning from 14-30 to 16-20, nimbi.
		88	82	76	E	Light	...	Cirri overhead, cumulostrati, cirrocumuli, nimbi with threatening appearance to S. W.
		79	76	80	N E	Light	0.35	Rain thunder and lightning occasionally from 12-30 to 16-20, nimbi & cirrostrati.
		79	76	80	E	Light	0.80	Rain at 2, 2-40 & 9 continues covered with nimbi, since last night.
16	29.586	78	77	95	E by N	Light	0.80	Rain ceased at 12 h., blew pretty strong from N. E. for 15 minutes, rain from 13-30 to 16-25, nimbi.
9-30	29.594	81	79	91	N by E	Light	0.30	Rain from 5-25, 8-30, nimbi overhead, cirrostrati round horizon.
16	29.559	83	80	87	S E	Light	0.20	Rain from 11-38 to 11-58 with thunder & lightning; cirrocumuli and nimbi.
10	29.756	90	80	63	S E	11*	...	Haze with light clouds,
16	29.626	91	81	63	S E by E	14*	...	Ditto.
10	29.712	91	81	60	S E by E	8*	...	Haze with ditto clouds.
16	29.581	90	82	69	E S E	13*	...	Light haze with light clouds.
10	29.567	89	81	69	E by S	8*	0.02	Cloudy.
16	29.547	89	81	69	E by N	9*	...	Ditto.
10	29.624	84	80	83	N N W	4*	1.59	Overcast.
16	29.489	80	78	91	N N W	5*	0.01	Ditto.
10	29.563	83	78	78	N N W	5*	3.28	Ditto.
16	29.408	85	79	75	W	7*	...	Cloudy.
10	29.484	88	78	62	S S W	15*	...	Ditto.
16	29.389	86	80	75	S S E	19*	...	Ditto.
10	29.569	90	79	69	S W	16*	...	Ditto.
16	29.482	89	81	69	S	14*	...	Hazy.
9-30	29.724	85	82	87	E	Light	...	Very cloudy.
16	29.590	87	83	83	S S E	Light	...	Partially cloudy.
9-30	29.709	87	83	83	W S W	Light	...	Ditto.
16	29.575	89	84	80	W S W	Calm	...	Cloudy.
9-30	29.677	88	84	83	W S W	Light	...	Ditto.
16	29.552	90	83	73	S S W	Light	...	Ditto.
9-30	29.636	88	84	83	S	Light	...	Ditto.
16	29.540	91	83	70	W S W	Calm	...	Partially cloudy.
9-30	29.704	89	84	80	S E	Light	...	Ditto.
16	29.584	88	82	76	W S W	Moderate	...	Cloudy.
9-30	29.617	88	81	72	S E	Moderate	...	Ditto.
16	29.535	89	84	80	S	Fresh	...	Ditto.
9-30	29.635	85	82	87	S E	Moderate	...	Sky overcast, slight rain this morning.
16	29.543	82	81	95	S E	Light	0.30	Ditto, raining since noon.
9-30	29.313	67	64	81	S E	Light	...	Misty.
16	29.231	68	63	74	W	Light	...	Thin cirri, woolly cumuli resting on hills to S. W.
9-30	29.299	66	63	83	S S W	Light	...	Rather misty.
16	29.224	65	62	83	W by N	Light	...	Scattered cumuli, thunder to S. W.
9-30	29.277	68	63	74	W	Light	...	A few thin clouds, woolly cumuli to N W mist rising to S E. S and S W.
		69	62	65	W	Moderate	...	Scattered cumuli.
		68	61	64	S E	Light	...	Cirrostrati round horizon, mist rising to N E and S E.
		68	63	74	W N W	Light	0.01	Scattered cumuli, a very slight passing shower at noon.
		65	61	78	S E	Light	0.10	Scattered cumuli, strati round horizon, rather hazy to E.
		68	63	74	W by N	Light	...	Scattered cumuli, nimbi.
		65	61	78	S E	Light	0.45	Cirrostrati, cumuli.
		66	62	94	W	Light	...	A few very large drops of rain about an hour ago.
		67	63	79	E S E	Light	0.95	The sky up to 9 hours has been clear, except with cirrostrati round horizon. When gradually a mist commenced rising all round.
		68	64	79	S S E	Light	...	Cirrocumuli, heavy to S W and W.

STATIONS.	June.	Hour.	Barometer reduced to 32°.	THERMOMETER.		Humidity Sat. = 100.	WIND.		
				Dry.	Wet.		Direction.	Velocity.	
BEAVER.	1st	10	29.525	87	78	65	N E	Moderat	
		18	29.401	98	79	40	N E	Light.	
	2nd	10	29.484	98	80	43	E	...	
		16	29.380	103	77	27	E	...	
	3rd	10	29.514	101	83	44	Calm	...	
		16	29.323	100	78	30	E	Light	
	4th	10	29.462	100	81	41	N E	...	
		16	29.320	98	79	44	S W	Light	
	5th	10	29.474	98	81	45	E	Light	
		16	29.308	94	84	64	Calm	...	
	6th	10	29.404	97	79	42	E	Light	
		16	29.264	101	79	35	E	Light	
	7th	10	29.389	92	78	51	E	Light	
		16	29.254	99	79	38	E	Light	
ROCKEY.	1st	9-30	28.926	74	70	81	N E	...	
		16	28.780	88	74	49	Calm	...	
	2nd	9-30	28.852	95	78	44	S E	...	
		16	28.735	101	79	35	S E	...	
	3rd	9-30	28.783	100	77	32	S	...	
		16	28.707	94	75	38	N W	...	
	4th	9-30	28.868	81	74	70	Calm	...	
		16	28.749	93	75	40	Calm	...	
	5th	9-30	28.854	82	73	27	S	...	
		16	28.746	89	73	43	S E	...	
	6th	9-30	28.771	98	75	30	S E	...	
		16	28.671	93	74	37	N E	...	
	7th	9-30	28.776	91	77	50	S E	...	
		16	28.642	99	78	36	S E	...	
MONG. M.	1st	10	29.830	93	79	51	...	5*	
		16	29.504	99	79	38	...	5*	
	2nd	10	29.576	99	79	38	...	5*	
		16	29.415	104	80	32	...	5*	
	3rd	10	29.586	93	80	54	...	5*	
		16	29.385	104	78	28	...	5*	
	4th	10	29.597	97	79	42	...	4*	
		16	29.384	104	77	29	...	6*	
	5th	10	29.587	96	79	44	...	4*	
		16	29.386	101	73	25	...	6*	
	6th	10	29.534	91	79	56	...	7*	
		16	29.427	87	77	61	...	12*	
	7th	10	29.505	89	79	62	...	6*	
		16	29.375	90	76	50	...	28*	
HAZARDBAUGH.	1st	9-30	27.701	78	73	77	E	...	0.59
		3-30	27.706	88	75	52	S E	...	
	2nd	9-30	27.786	85	74	57	S	...	
		3-30	27.661	91	77	50	S	...	
	3rd	9-30	27.744	84	73	56	S	...	
		3-30	27.639	90	76	50	S	...	
	4th	9-30	27.764	84	74	60	S	...	
		3-30	27.656	83	75	67	S	...	
	5th	9-30	Not received.						
		3-30							
	6th	9-30	Not received.						
		3-30							
	7th	9-30	Not received.						
		3-30							
PATNA.	May 29th	9-30	29.475	98	79	40	E	...	
		3-30	29.322	103	78	29	S E	...	
	30th	9-30	29.421	98	79	40	E	...	
		3-30	29.289	101	80	37	E	...	
	31st	9-30	29.556	94	81	55	E	...	
		3-30	29.418	81	74	70	S	...	
	June 1st	9-30	29.290	92	75	42	S E	...	
		3-30	29.376	99	78	36	S E	...	
	2nd	9-30	29.533	95	78	44	S E	...	
		3-30	29.374	101	82	42	S E	...	
	3rd	9-30	29.474	98	78	38	S S W	...	
		3-30	29.317	101	76	28	S E	...	
	4th	9-30	29.402	95	78	38	E	...	
		3-30	29.361	102	78	31	S E	...	
	5th	9-30	29.561	95	77	41	E	...	
		3-30	29.366	98	78	38	E	...	
	6th	9-30	29.486	90	77	53	E	...	
		3-30	29.319	93	78	48	S E	...	
	7th	9-30	29.411	89	75	49	E	...	
		3-30	29.304	91	79	56	S E	...	

\* Velocity of wind in miles per hour.

Hour.	Barometer reduced to 32°	THERMOMETER.		Humidity Sat. = 100.	WIND.		Rain.	WEATHER.
		Dry.	Wet.		Direction.	Velocity.		
16	Not received.	6.	⊖				Inch.	
9-30								
16								
9-30								
16								
9-30								
16								

SECRETARIAT,  
*June 1868.*

HENRY F. BLANFORD,  
*Meteorological Reporter to Govt. of Bengal.*

in Calcutta Gazette No. 22 of 27th May, page 353, Darjeeling, from 8th May 9-30 to 11th May 16 hours in Barometer column for Dense mist and drizzling morning read dense mist and drizzling most disagreeable morning.



Abstract of Rainfall as received in the Meteorological Reporter's Office from 1st January 1868, up to the dates specified.

Divisions.	Stations.	Rain from 1st to 14th June 1868.	RAIN FROM 1ST JAN. 1868.		
			Rain.	Up to Date.	
CENTRAL.	Calcutta ...	21.75	33.41	14th June 1868.	
	Saugor Island ...	22.60	P	.....	14th June 1868.
	Jessore ...	Not received.	22.71	31st May 1868.	
	Kishinagar ...	5.85	P	.....	Not received from 1st—7th June.
	Hooghly ...	12.40	P	.....	Ditto ditto.
	Howrah ...	17.80	P	.....	Ditto ditto.
	Scrampore ...	24.70	P	.....	
	Koosteah ...	19.70	P	.....	
	Pubna ...	4.24	P	.....	
	Berhampore ...	9.03	21.29	14th June 1868	Not received from 21st—27th Jan
WEST.	Alipore ...	24.82	P	.....	Ditto from 1st—7th June.
	Burdwan ...	5.00	P	.....	Ditto ditto.
	Rancegunge ...	15.55	P	.....	
	Sooree ...	Not received.	3.50	31st May 1868.	
	Hazareebatugh ...	8.08	11.37	14th June 1868	Not received from 28th February to 5th March.
	Midnapore ...	Not received.	9.30	7th June 1868	Ditto from 1st to 31st May.
	Bancoorah ...	ditto	10.85	14th June 1868	Ditto from 1st to 7th June.
SOUTH WEST.	Cuttack ...	19.90	25.13	Ditto.	
	False Point ...	Not received.	8.25	30th May 1868.	
	Poorce ...	ditto	10.32	31st May 1868.	
NORTH WEST.	Benares ...	ditto	2.39	Ditto.	
	Chuprah ...	ditto	4.70	Ditto.	
	Patna ...	ditto	6.75	14th June 1868	Not received from 29th May to 7th June.
	Monghyr ...	ditto	6.22	Ditto	Not received 7th June only.
	Arrah ...	1.15	P	.....	Ditto from 1st to 7th June.
	Buxar ...	1.25	P	.....	
NORTH.	Darjeeling ...	Not received.	12.34	7th June 1868.	
	Maidah ...	ditto	4.99	31st May 1868.	
	Rajmehal ...	ditto	0.20	31st Jan. 1868.	
	Rampore Bauliah ...	ditto	22.07	7th June 1868.	
EAST.	Shillong ...	ditto	11.50	30th May 1868.	
	Gowalparah ...	ditto	15.06	6th June 1868.	
	Chittagong ...	39.35	78.98	14th June 1868.	
	Dacca ...	Not received.	21.20	7th June 1868.	

CALCUTTA,  
The 17th June 1868.

HENRY F. BLANDFORD  
Meteorological Reporter to the Government of Bengal.

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